

NAVAL FIGHTERS NUMBER FORTY-NINE

DOUGLAS A-4A/B
SKYHAWK

IN NAVY SERVICE



BY STEVE GINTER



Above, the author in an A-4B at NAS Los Alamitos, CA, in the late '60s. At the time he was a 3rd Class Aviation Machinist's Mate Jet (ADJ-3) assigned to the VA-line as a plane captain, before graduating from college and moving on to NAS Pensacola for flight school with his shiny new Ensign bars.

'Heinemann's Hot Rod', 'Tinker Toy', 'Bantam Bomber', all nicknames for the embodiment of simplicity and design efficiency in the best attack aircraft ever (author's opinion).

Because of the size of this volume, Reserve Squadrons and model reviews will be discussed in the volume covering the USMC A-4A/Bs.

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ESSENTIAL READING

Dictionary of American Naval Aviation Squadrons Vol 1, VA, VAH, VAK, VAL, VAP, and VFA Squadrons (Roy Grossnick); Tonkin Gulf Yacht Club, U.S. Carrier Operations Off Vietnam (Rene Francillon); The Skyhawk Association Web Site, www.skyhawk.org; Osprey Air Combat, Douglas A-4 Skyhawk (Peter Kilduff).

FRONT COVER: VA-113 A4D-1 being started on the deck of the (CVA-19) in 1958. (John Miottel)

EARLY SKYHAWKS, THE DOUGLAS A4D-1 (A-4A) AND A4D-2 (A-4B)



The origins of the Skyhawk can be traced to two sources. The first was repeated requests from the fleet to the Chief of Naval Operations from aviators serving in Korea for improvements in attack aircraft technology. The slow speed of the F4U and AD propeller driven aircraft dictated attack missions that were potentially 8 to 12 hours long and resulted in extreme fatigue. Returning pilots were not coping well with the marginal weather conditions and pitching carrier decks after these grueling combat missions. The pilots asked for turbo-jet powered attack aircraft with increased speed and maneuverability to decrease overall mission time and time over target. They further requested an aircraft of reduced physical size and a comparable bomb load to that of the Douglas AD Skyraider.

The second impetus for the Skyhawk came from Ed Heinemann, Chief Engineer, at the El Segundo Division of the Douglas Aircraft Company. Since his work on the wartime SB2D and TB2D programs, Heinemann was preoccupied with the old problem of increased growth in weight and complexity. A general research program was undertaken by Douglas to investigate all aspects of weight reduction and the elimination

of unnecessary complexities for future design programs. A 1952 Douglas report noted that one pound of weight added in the design of a typical small subsonic jet aircraft increased the gross weight of the airplane 10 pounds. With aircraft costs then at 40 dollars per pound, this meant that the one pound added increased the cost of the aircraft \$400 if performance and strength were unchanged.

Prior to publication of this report, an unsolicited fighter proposal using lightweight design concepts and principals was submitted to the Navy's Bureau of Aeronautics in early 1952. In view of the operational requirement being generated as a result of fleet suggestions for attack aircraft, the Navy asked Douglas to modify its proposal as a lightweight attack bomber.

More specifically: the Navy specification called for a lightweight shipboard attack-bomber capable of delivering nuclear weapons or performing conventional multipurpose (interdiction) missions - bombing, rocketry, gunnery and missile launching against moving targets. The aircraft was required to have a 500-knot top speed, a 400 nautical mile combat radius, a maximum gross weight of 30,000 pounds, and carry 1,000

Above, XA4D-1 being positioned for rollout ceremony El Segundo, CA, on 6 June 1954. Aircraft was natural metal with gloss white wing undersurfaces. Brown paper is taped over the aircraft's designation and BuNo, presumably for cold war security reasons. (Douglas via Harry Gann)

pound bombs.

One month later, Douglas submitted a proposal for a 12,000 pound attack jet that would meet all of the desired performance criteria. During the submissions evaluation, the range requirements were increased, which accounted for the raising of the design gross weight to 14,000 pounds.

The means of financing the construction of a prototype Skyhawk became available when BuAir decided to cancel the Douglas XA2D-1 SkyShark turbo-prop powered attack aircraft. The promising design had bogged down because of the seemingly insoluble problems arising from the engine design. Funds in the amount of 41 million dollars from the A2D program were transferred to the new lightweight attack aircraft to be designated as the XA4D-1.



Above, A4D mock-up was remarkably little different than the thousands of production Skyhawks that followed except in the length of the rear fuselage. (Harry Gann) Below, overhead view of the XA4D-1 on rollout day. Note the one-piece unframed blown plexiglass windscreen that was initially characteristic of the first 19 Skyhawks. Short span of 27 feet eliminated the need for folding wings. (Douglas via Harry Gann) Page 3 top, XA4D-1, 137812, taxiing out for its first flight at Edwards AFB on 22 June 1954 with Douglas test pilot Bob Rahn at the controls. (Douglas via Harry Gann) Page 3 middle, 137812 during its first flight with centerline fuel tank. Note the original exhaust cone prior to the addition of the sugar-scoop exhaust fairing. (Douglas via Harry Gann) Page 3 bottom, Bob Rahn landing after the Skyhawk's first flight at Edwards AFB. (via Harry Gann)

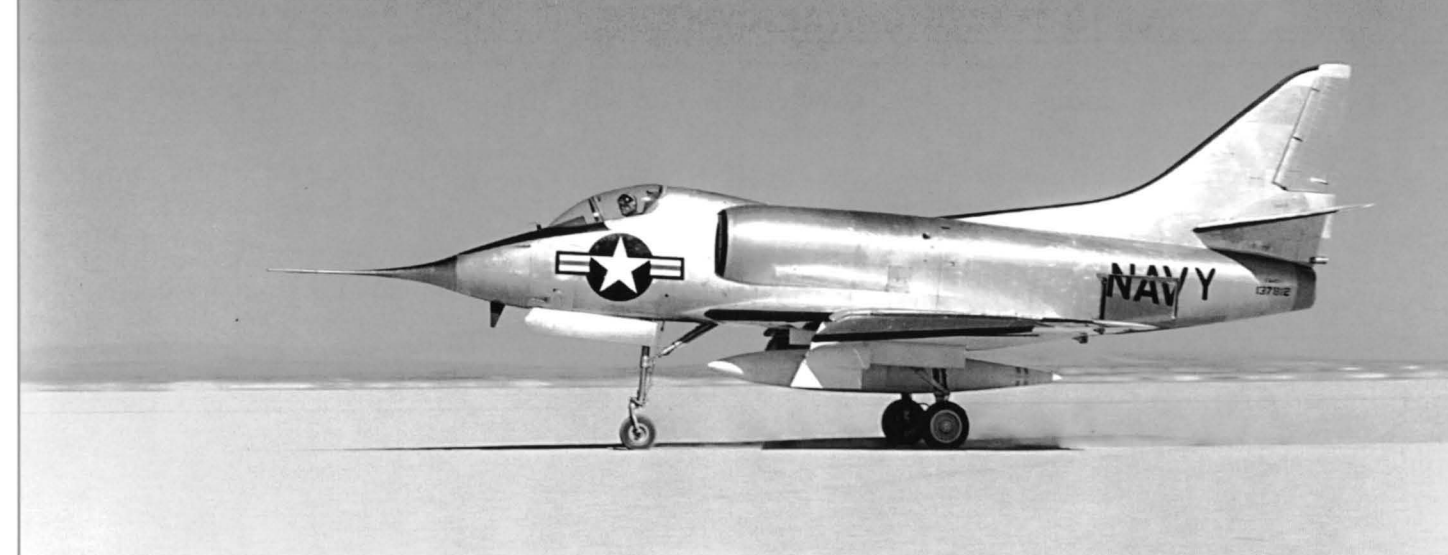


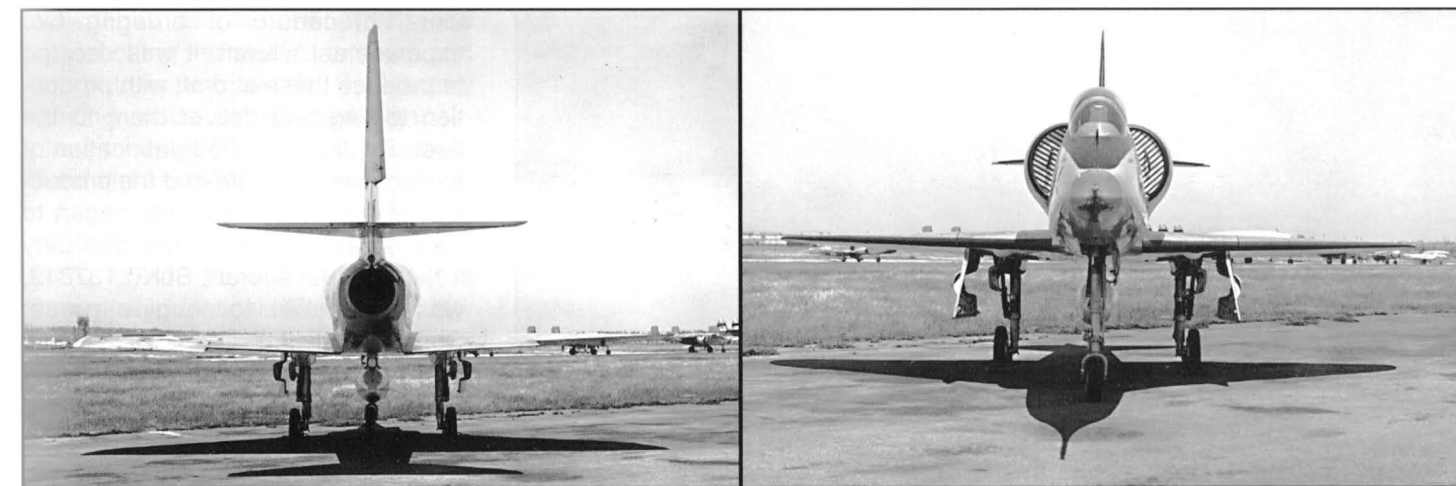
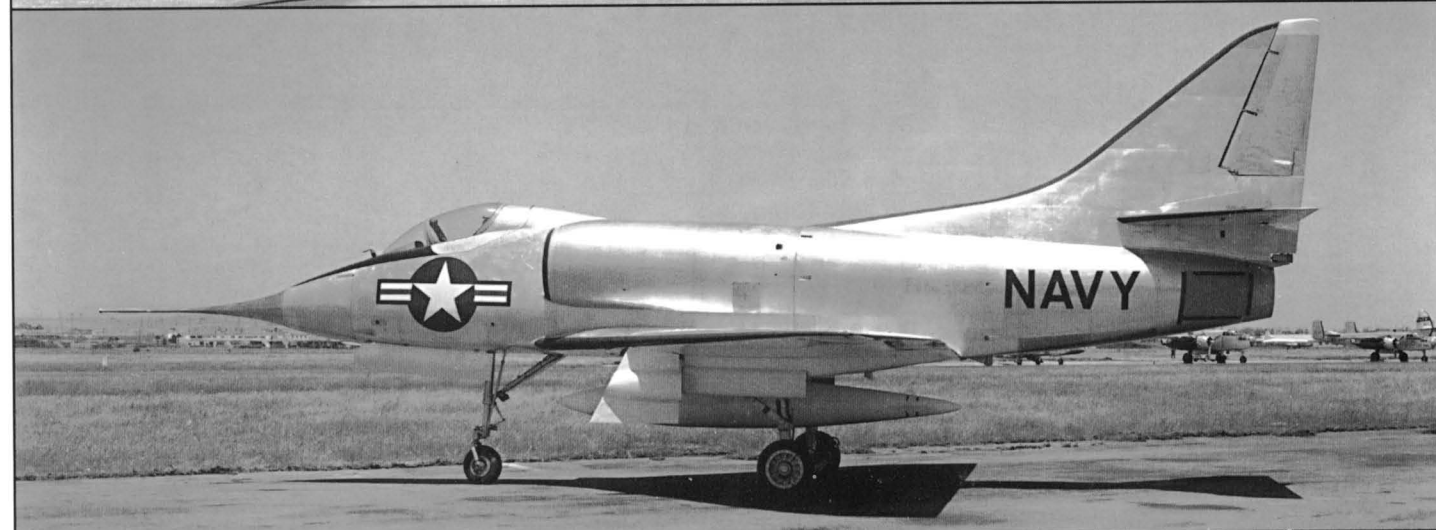
Above, Bob Rahn prepares for the first flight of the XA4D-1 on 22 June 1954. (Douglas via Harry Gann)

A contract was let on 12 June 1952 for one XA4D-1, BuNo 137812. The specified empty weight was 8,136 pounds. By comparison, the FJ-4B Fury Bravo, a comparable attack aircraft of the same era, with the same engine and internal fuel weighed 13,790 pounds or 70% more than the YA4D-1. The airplane is best described in the Mock Up Inspection Report. "Basically it is a delta-wing configuration with a normal tail, a conventional control system, carries a crew of one, powered by a single J65-W-2 axial jet engine. A large variety of weapons can be carried externally on three bombracks, the centerline station being capable of carrying stores up to 3,575 pounds, and the wing racks being stressed for 1,000 pounds each. Design gross weight with one Mk. 12 nuclear weapon is 14,250 pounds, and the combat radius with this weapon and internal fuel only (900 gallons) is 400 nautical miles. The maximum design catapult weight is 19,760 pounds. Maximum speed in the clean condition at sea level is 596 knots (mach 0.9) and the combat ceiling at combat weight is 50,000 feet."

The target cost was \$1,000,000 and the A4D-1 came in at \$860,000. The aircraft was 100-knots faster than, and its radar signature was 1/100, the specification requirements. Compared to other contemporary aircraft, the A4D-1 had 50% less fuel consumption, 40% less maintenance, and 50% less overhaul time.

As a result of the first Mock Up Board that met in October 1952, 19 aircraft were ordered. Rather than the







usual procedure of ordering two experimental aircraft, it was decided to produce these aircraft with production tooling and deliver them to the fleet. By January 1953, fabrication of tooling was complete and the production of aircraft components began to flow. A year later, during February 1954, the first aircraft, BuNo 137812, was rolled out for engine runup. Subsequently the aircraft was trucked to Edwards AFB in the California desert. Then, after extensive ground and taxi tests, it was flown on 22 June 1954, just two years after the go-ahead was given.

THE XA4D-1 BuNo 137812

Bob Rahn made both of the Skyhawk's first and second flights on 22 June 1954. The first flight was a low-level familiarization test hop just above the surface of the lake bed. During the second flight, Rahn reported: "Liftoff at 125 knots, requiring small amount of up-elevator only as aircraft accelerated stabilizer had to be steadily repositioned to keep aircraft in trim gear and flaps retracted at 175 knots. Inflight operational checks made at 15 thousand: landing gear, dive-brakes and flaps cycled fuel and electrical systems checked then straight and level flight at various power settings, slight oscillation noticed apparently from the rear of the aircraft a series of turns made control forces comfortable, response excellent. Finally,

Above top left, 137812 in flight on 15 March 1955 with wing pylons added. Note the exhaust cone sugar scoop has not yet been added. (Douglas via Harry Gann) Above left, 137812 at El Segundo with an Air Force B-66 in the background. A Douglas Flight Test logo has been added to the tail as well as a da-glo fin stripe. Another da-glo stripe has been added vertically in front of the national insignia. The nose instrumentation boom was now red with thin natural metal spirals. The wing tanks were blue and the corrective tailcone sugar scoop has been added. (Douglas via Harry Gann) At left, the Skyhawk's designer Edward H. Heinemann and the XA4D-1 on 6 June 1954. (Douglas via Harry Gann)

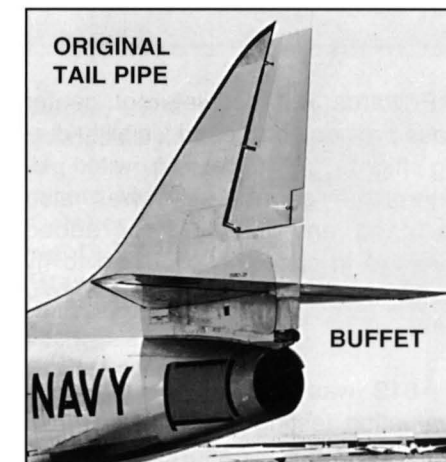
slow-flight maneuvers at speeds approaching the stall letdown and into pattern at Edwards. Satisfactory landing made on lakebed with airplane trimmed at 150 knots airspeed. Total flight time 45 minutes."

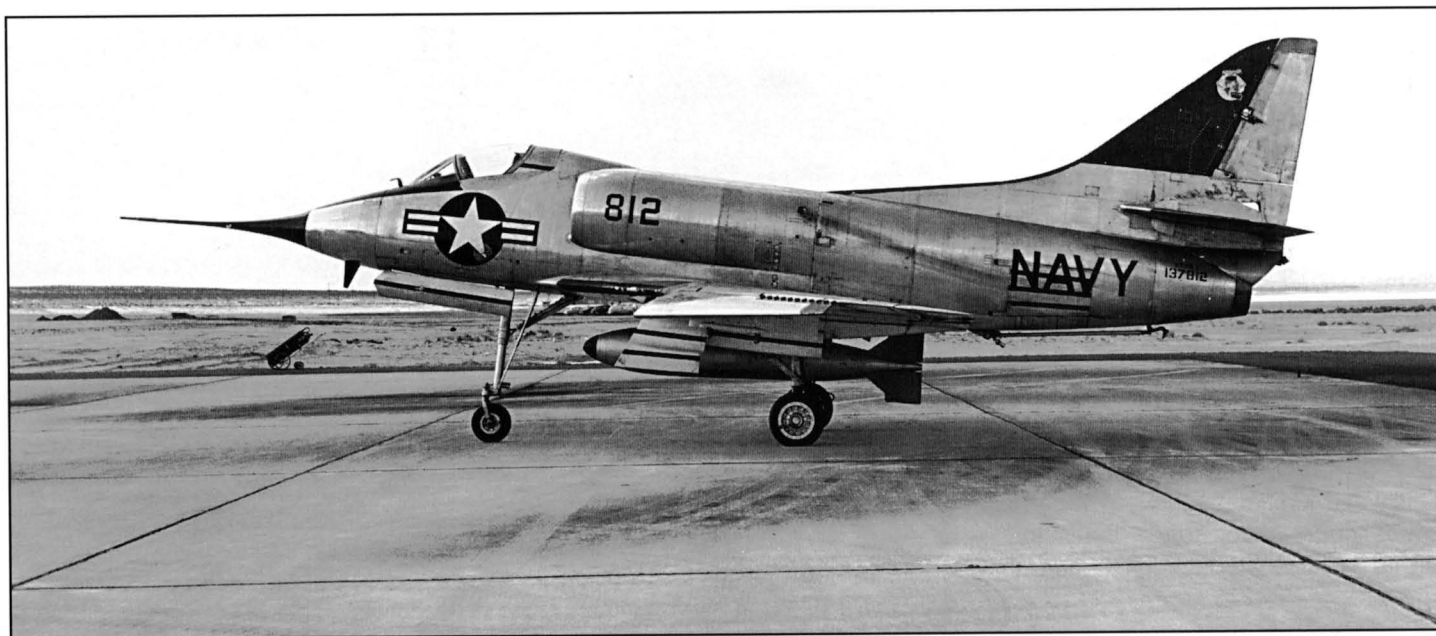
The XA4D-1 and the next 19 aircraft, 137813 through 137831, were essentially identical. After some very successful first flights, the "X" designation was dropped from the first Skyhawk. Initially, 137812 had a shortened tail pipe resembling that used on the Grumman F9F Panther. This was modified by the addition of a upper sugar-scoop after early test flights revealed buffeting at certain speeds.

For flight number 43, 812 was fitted with a special parachute-pod on the right side under the aft fuselage. On 4 January 1955, Bob Rahn's flight log records: "Purpose of flight to evaluate spin-characteristics of the A4D for the first time entry into spin made at 32,000 feet to the left in glide configuration recovery started promptly after 1/4 turn no tendency for plane to go off into right spin nature of spin consisted of definite yaw and oscillation. Recovery quite effective using right rudder termination of spinning found aircraft in a vertical dive, somewhat inverted. Subsequent spins included 1.5 turns to the left entry made at 32,000 feet recovery made in 1.25 turns with plane in a vertical attitude rudder forces light and effective total of 12 spins made this date series of normal and accelerated-stalls made on subsequent flights. Excellent recovery characteristics were noted in all cases."

The first Navy pilot to fly 812 was CDR J. Taylor USN on 29 September 1954. He was followed by LCDR J. Stuart USN. Both pilots were enthusi-

At right top, A-bomber comparison, XA4D-1 and A3D-1 on 6 June 1954. (Douglas) At right, good view of the red spiral painted nose and test boom on 137812 on 30 March 1955. Aircraft had a red da-glo stripe on the tail fin and on the nose. The tail pipe sugar-scoop was added to stop buffeting. (Douglas)





astic with the Skyhawk's performance.

During flights at high altitudes and certain speeds, pilots began experiencing random wing drop. Aerodynamicists determined that air-flow twisting and turning over and off the wingtips were creating the unseen forces that caused this trouble. A series of small outer wing vortex generators was installed on the upper wings which eliminated these unwanted forces.

By August 1955 a new three-piece windshield was installed on 812

at Edwards. A flat, bulletproof, center glass provided improved visibility during flights through rain, etc. An extendable control stick was also designed and installed for added leverage in case the pilot had to fly home without hydraulic boost-pressure.

812 was part of the weapons evaluation testing done in late 1955 and in 1956. Assorted nuclear shapes, bombs, mines, and tanks were tested.

The XA4D-1 was powered by a 7,200 pound thrust Curtiss Wright

Above, 137812 with a Mk. ?? shape mounted on the centerline pylon on 19 April 1956. Tail and nose were red. Black stripes were added to the gear doors and speed brakes for photo recognition purposes. Also note the large 812 painted on the engine intake and the new three-piece windscreen. (Douglas via Harry Gann) Below, 137812 with an orange Mk. 76 shape on the centerline pylon on 21 April 1956. (Douglas via Harry Gann)

J65-W-2 engine, which was replaced in production aircraft with the 7,800 pound thrust J65-W-4/-4b engine.



LT GORDON GRAY SETS WORLD SPEED RECORD ON 15 OCTOBER 1955

Douglas engineer R. B. Smith had calculated that the Skyhawk with internal fuel only was capable of breaking the 500 Kilometer closed course World Speed Record. Bob Rahn flew several test flights to investigate the feasibility of a speed attempt. These resulted in some structural changes to the rudder and the aircraft was turned over to LT Gordon Gray, USN, for the record attempt.

LT Gray, a test pilot from Naval Air Test Center (NATC), Patuxent River, MD, set the new record by circling a special 100 km course five times. The route was marked by 12-red pylons with special smoke and mirror signals aiding the pilot at each 30° turn. On his first attempt, LT Gray posted an average speed of 695.163 mph which eclipsed the old record set by MAJ John L. Armstrong, USAF, in an F-86H Sabre jet on 3 September 1954 by over 45 mph.

It took 26.8 minutes to circle the 310.68 mile course five times.



Above, LT G. Gray rounds a pylon during his world speed record flight on 15 October 1955. At right, LT Gordon Gray. Below, officials look over the record-setting A4D-1 Skyhawk during final preparations. (USN)

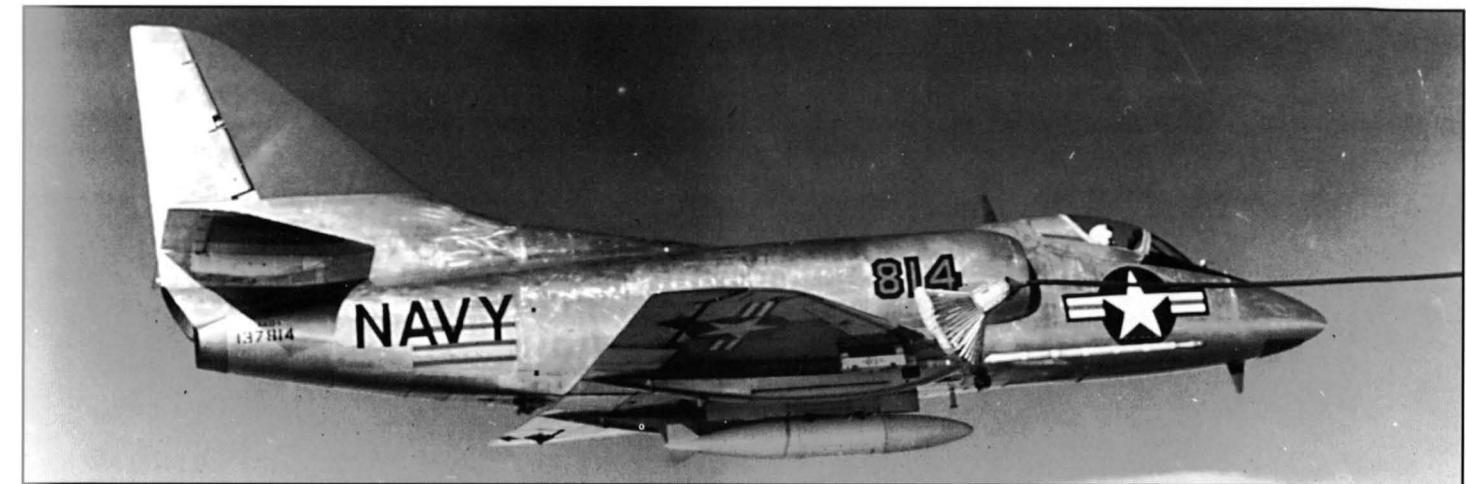
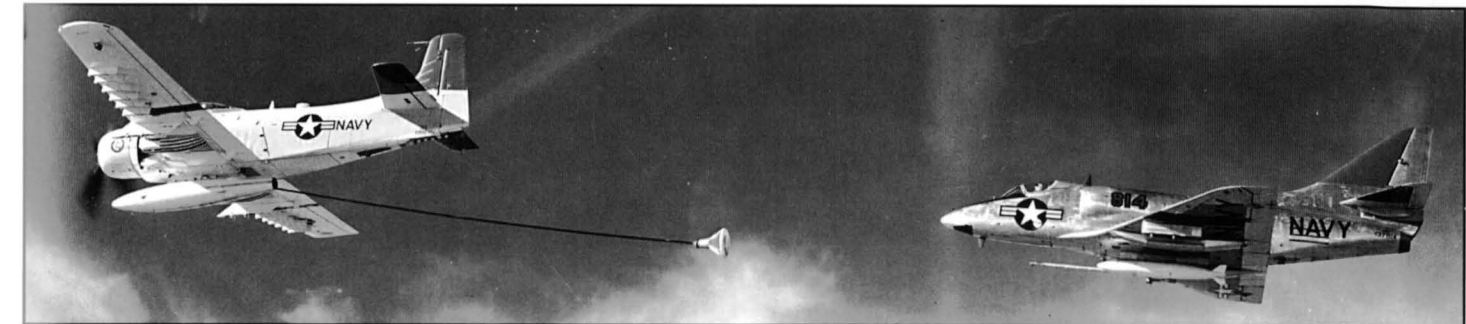




Above, 137813 with 500 lb bomb on the wing pylon was natural metal with a red tail. The tail emblem was for the Douglas Testing Division at Edwards. The gear doors and speed brakes had red stripes added and the undersurface of the wing was white. Below, 137813 is loaded with a 2,000 lb bomb on the centerline. Bottom, 137813 on 24 March 1956 with one 2,000 lb and two 1,000 lb bombs. The Douglas test emblem has been moved to a red nose with yellow probe and flame-like trim. (Douglas)



At right, 137814 with original tail cone. (Douglas) Below, after adding the sugar-scoop tail cone, 137814 was involved in the the Douglas Jam-pack re-fueling buddy tank tests. (Douglas) Below middle, 137814 misses the basket. The aircraft carries a white Douglas NAVPACK on the centerline pylon which houses test instrumentation gear. (Douglas) Bottom, 137814 at NAS Miramar air show and open house on 30 October 1955. The 814 on the fuselage side was red outlined with black. (William Swisher)





Above, A4D-1 137814 over NAS Patuxent River, MD, on 10 April 1956. After completing the refueling tests at Edwards AFB, the aircraft was sent to the Naval Air Test Center for service testing. (USN) Below, 814 prior to replacement of windscreen. (USN)



While still in the Navy, Jim Verdin had set a world speed record in the Douglas Skyray over a three kilometer course. Shortly after his record speed run he was offered jobs at both Douglas and North American. After due consideration he took the position with Douglas and eventually ended up testing the new A4D Skyhawks.

On 13 January 1955, Jim was killed while conducting a transonic wing drop test. This test was considered routine and no chase plane accompanied him on the flight. At approximately 2:30 in the afternoon a short, garbled radio transmission was heard. All airborne aircraft were queried and Jim did not respond. Rescue forces were notified and concentrated their search east of the lake bed where a faint cloud of black smoke had started to rise. Aircraft searched the area and found the

impact site but no sign of Jim or his parachute. A search was performed until sunset with no results. Douglas even kept a DC-3 up until midnight in hopes of seeing a flashlight or campfire, again no results. The next day at dawn the search resumed with all available personnel from the Air Force and the civilian contractors. Late on the afternoon of the 16th his body was discovered about half a mile from the crash site. His parachute had not opened and he was partially covered by sagebrush.

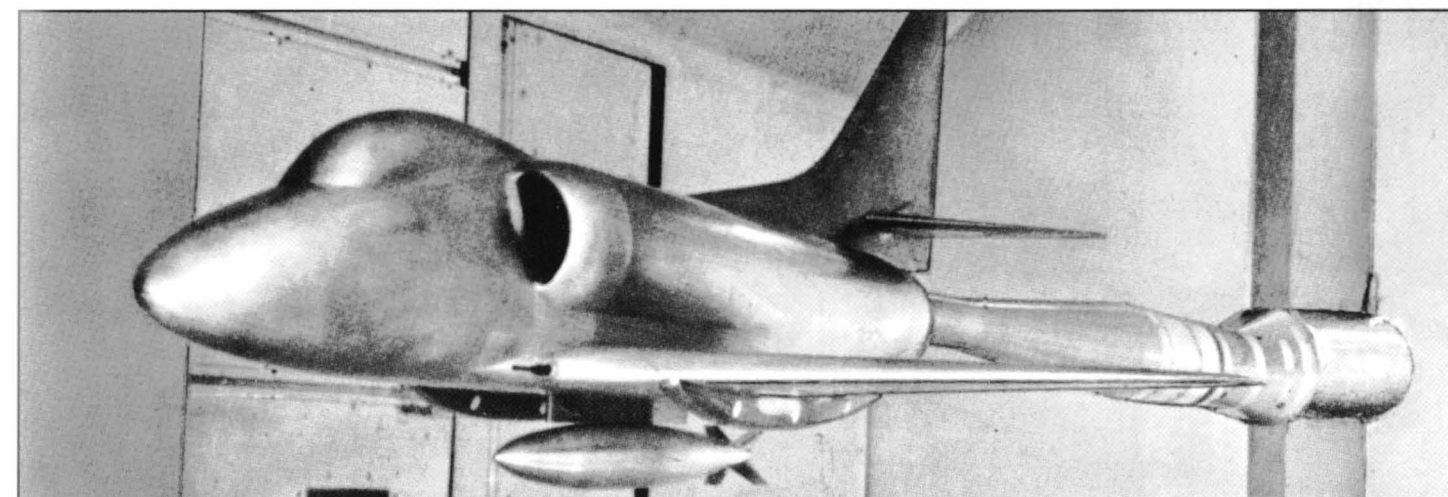
The accident investigation team concluded that the accident was caused by the failure of the single source hydraulic system controls to the ailerons during the transonic wing drop test. The ensuing aileron flutter was at such a high amplitude that manual control would have been impossible. Everything would have worked against him as fuel would

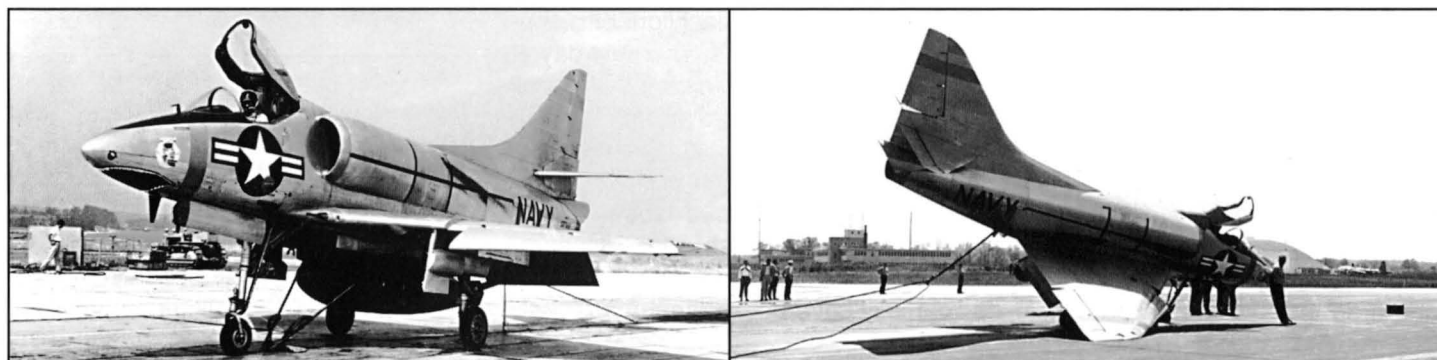
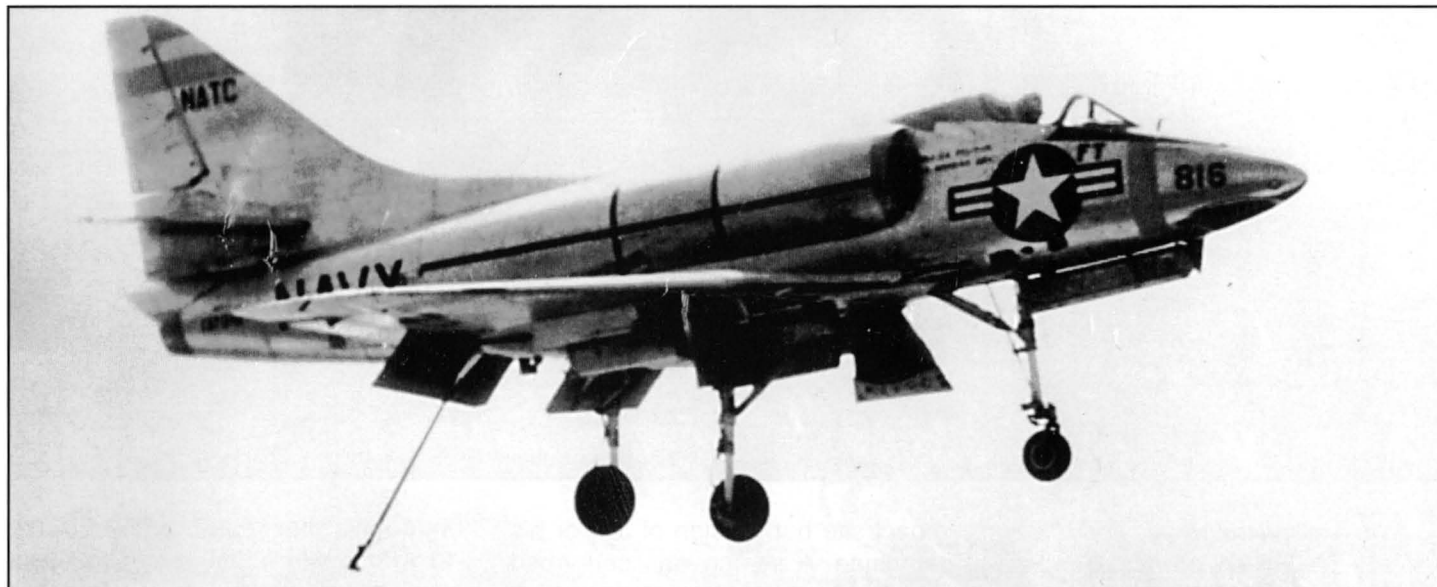
Above, the ill-fated 4th Skyhawk, BuNo 137815, in which Jim Verdin was lost east of Edwards AFB. (Douglas) Bottom, wind tunnel model of the A4D-1 as tested in Pasadena. (Douglas)

have flowed into the down wing and the aircraft would have gone-out-of control.

Inspection of Jim's body led to the conclusion that his helmet had impacted the canopy upon ejection with sufficient force to render him unconscious and incapable of opening his parachute.

Because of Jim's loss, Douglas had a tandem-powered aileron system installed on future Skyhawks. In addition, baffles were added to the wing tanks to prevent fuel from flowing into the down wing during maneuvering.





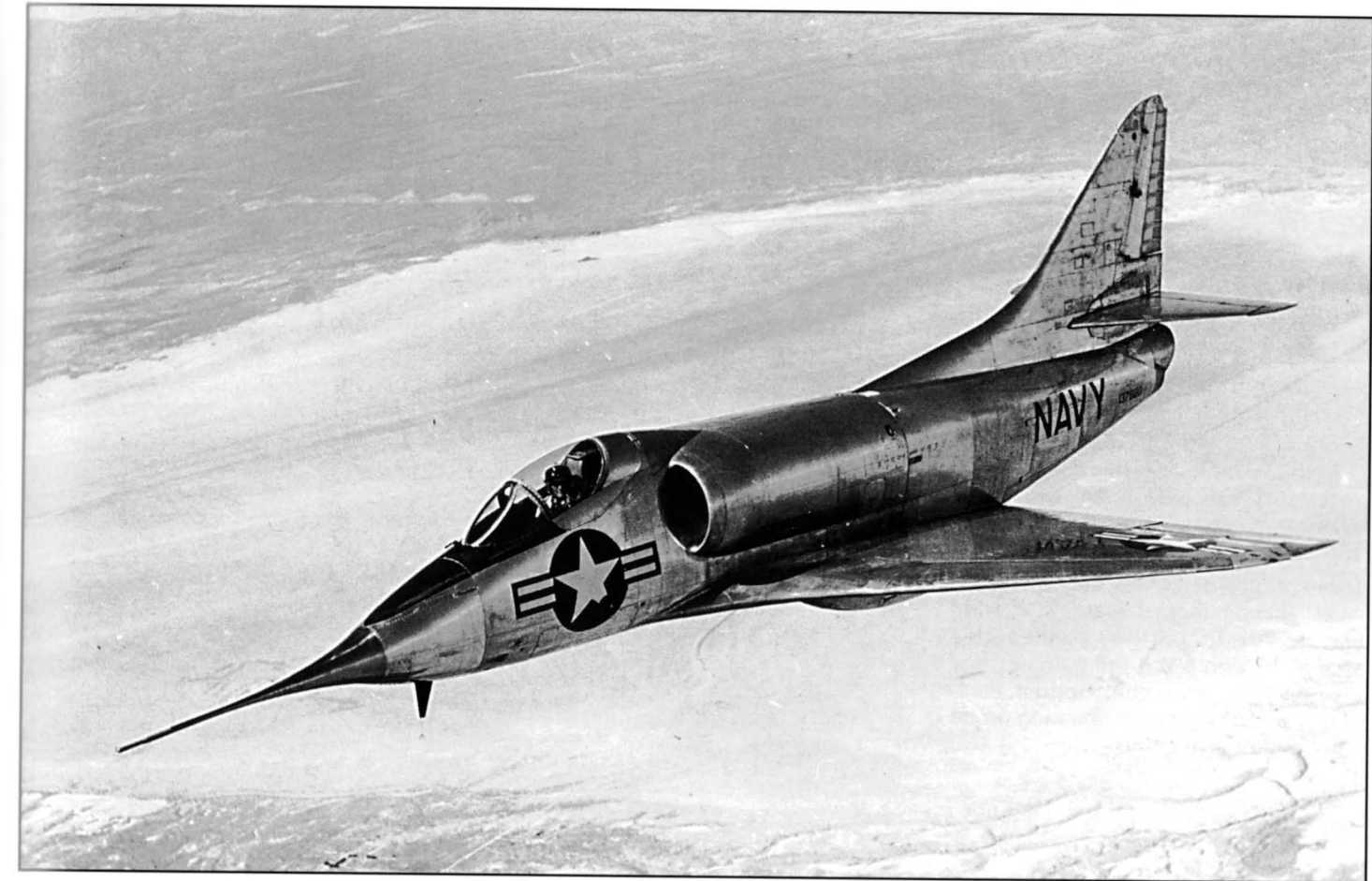
Above left, 816 carrier approach. (USN) Far left and bottom left, catapult testing with T-63 shape. (Douglas) At left, off-center arrestment accident. (Douglas) Da-glo red tail, nose and wing stripes were added as were black fuselage tracking lines. (Douglas)

Above, 137817 on 19 May 1956 with Zuni rocket pods mounted on the outer pylons. The aircraft had da-glo red wing stripes, gear door and speed brake stripes, and a insignia red tail with the Douglas Testing Division logo applied. (USN) Below, 137817 with large blue centerline drop tank and 1,000 lb bombs on the wing pylons on 12 April 1956. Note location of the da-glo red wing stripe on the leading edge slat. (USN)



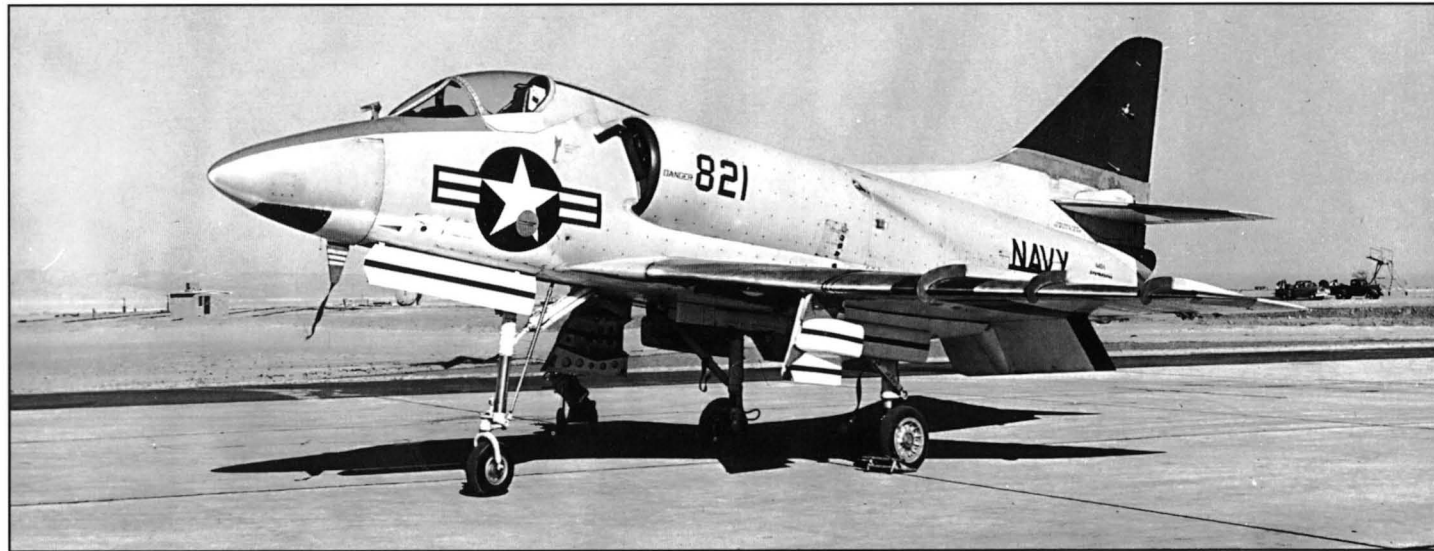


Above and below, 137818 with a variation of the Douglas Testing Division logo on the nose. A large bird flying with a pilot's helmet on. (15 April 1955, Douglas) Bottom, 137819 in flight with a NAVPACK on the belly station. (Douglas)

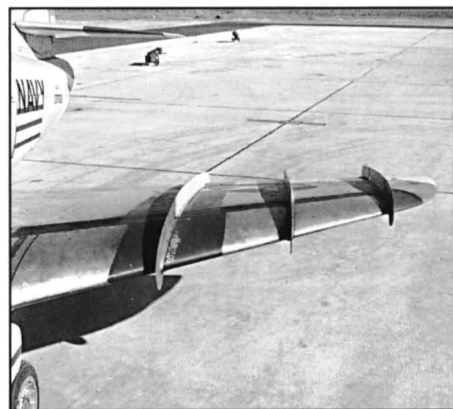


Above, 137820 in flight on 14 October 1955 was upgraded with a conventional windscreen, a sugar scoop tail cone and a partial tad-pole rudder. (Douglas) Below, 137820 was also used for bomb testing and is seen here at Edwards AFB with a giant bomb painted on the intake lip. A stylized Skyhawk was painted on the nose. The nose probe was white as was the background area for the Skyhawk. Tail was red with a white 820. (William Swisher)





Three photos of 137821 on 7 May 1956 while testing locked slats with wing fences. The aircraft was painted grey and white with a red tail painted over the previous da-glo one. Bottom, earlier photo of 137821 with refueling probe and da-glo tail. (Douglas)



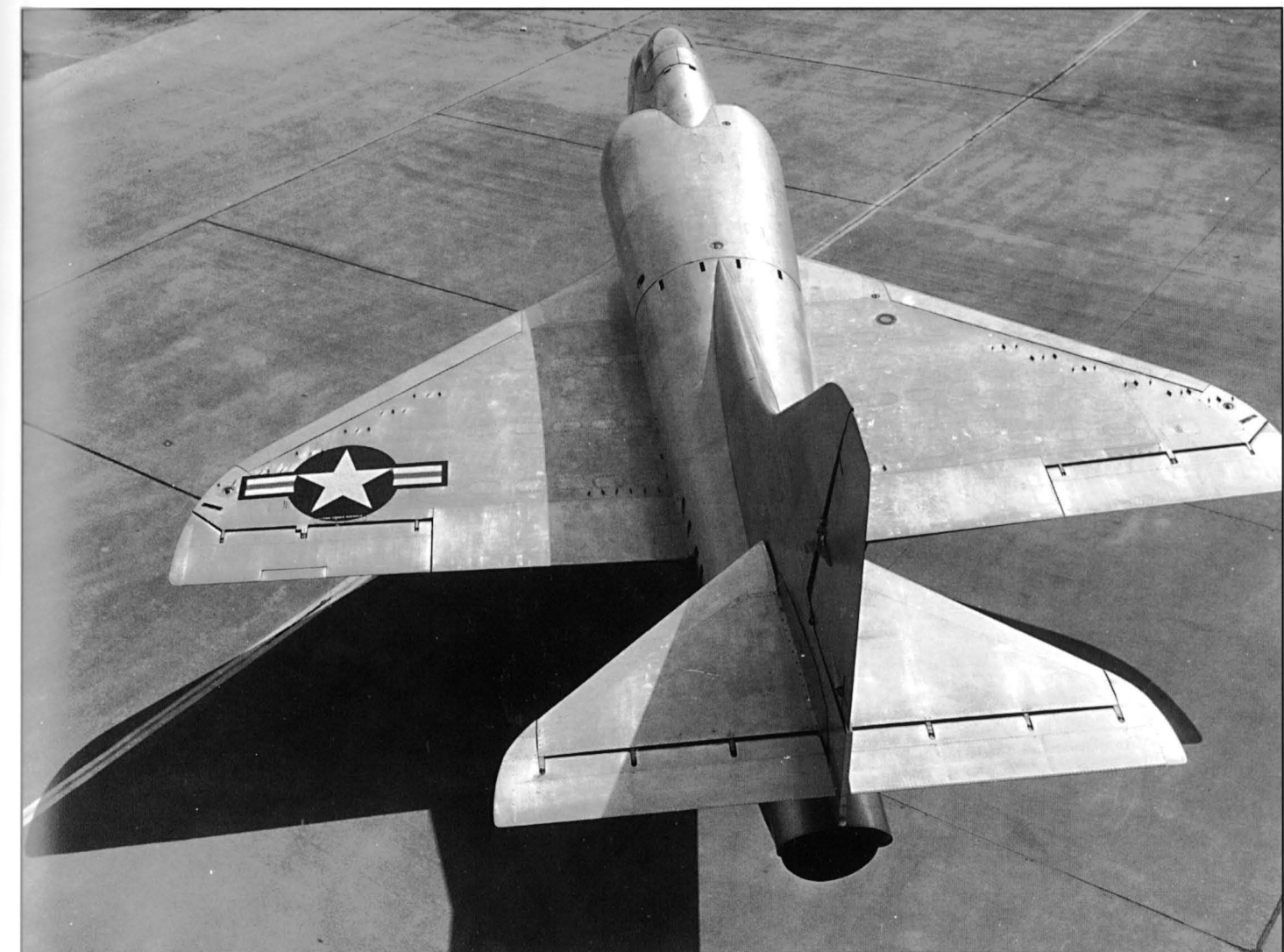
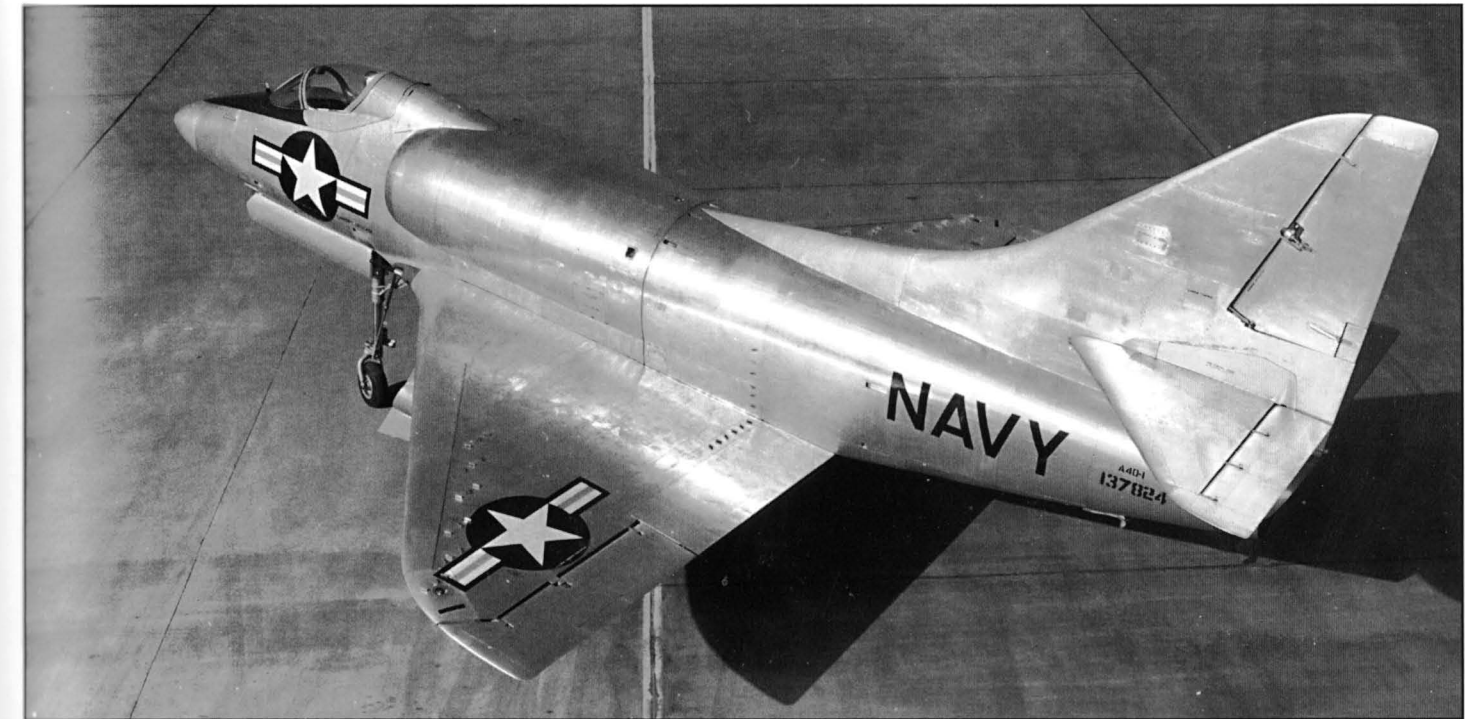
Above, 137822 at the Philadelphia, PA, air show in September 1955 with portable starter cart on the center-line pylon. (Doug Olson via William Swisher) At right and below, 137823 being tested at Naval Air Test Center (NATC) Patuxent River, MD, in May 1956. (USN)





At left, 137824 while assigned to Electronic Test (ET) at Naval Air Test Center (NATC). Drop tanks were blue. (via Nick Williams)

Below and at right, 137824 on 2 November 1955. The final configuration of the upper wing vortex generators is not seen on this aircraft. The fuselage break line can be seen just forward of the vertical fin fairing. (Douglas)

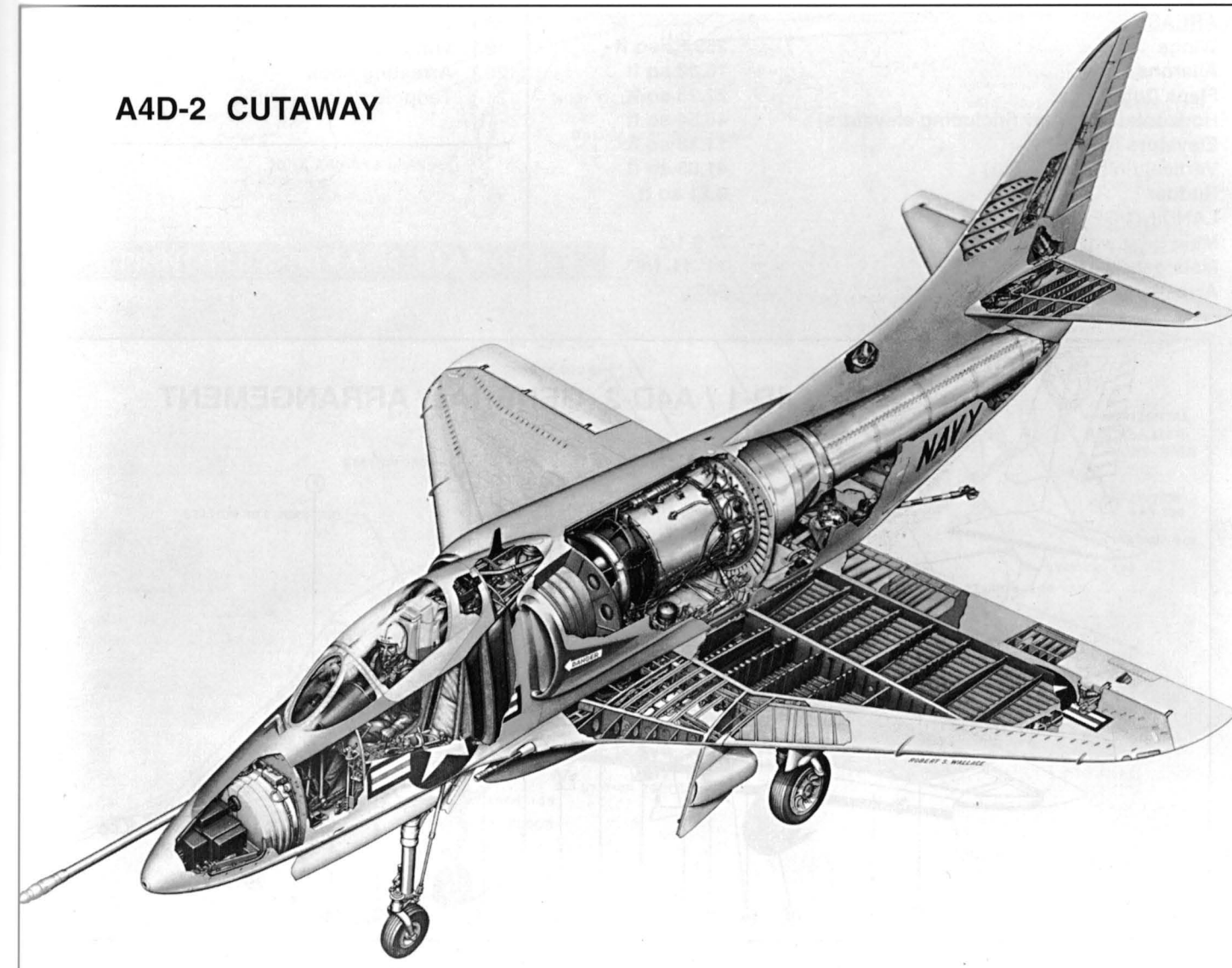




Above, 137829 after roll-out on 29 February 1956 in standard grey and white scheme. (SDAM) At left, 139920 at Edwards AFB on 18 May 1956. (William Swisher) Below and at right, 142191 over Lake Mead, NV, on 16 April 1957. (Douglas)



A4D-2 CUTAWAY



GENERAL:

Span	27' 6"
Length	42' 10-7/8"
Length (Fuselage reference line level)	41' 11-5/8"
Height	14' 11-7/8"
Height (Fuselage reference line level)	18' 3-5/8"

WING:

Airfoil section at root section	NACA .0008-1.1-25-.0875 (.5x230)
Airfoil section at theoretical tip	NACA .0005-.825-50-.0787 (.5x230)
Chord at root section (center line of fuselage)	15' 6"
Chord at construction tip	3' 6"
Mean aerodynamic chord	10' 9-5/8"
Dihedral	2° 41min.
Sweepback (25% chord)	33° 12min.
Aspect ratio	2.91

HORIZONTAL STABILIZER:

Span (including elevators)	11' 4"
Maximum chord (at station 0)	6' 8"
Incidence adjustment	11° up 3° down

FUSELAGE:

Length	37' 5-5/8"
Width (maximum)	5' 4"
Height (maximum)	5' 6"
Ground angle (fuselage ref. line to static grd. line)	5° 59 min.

AREAS:

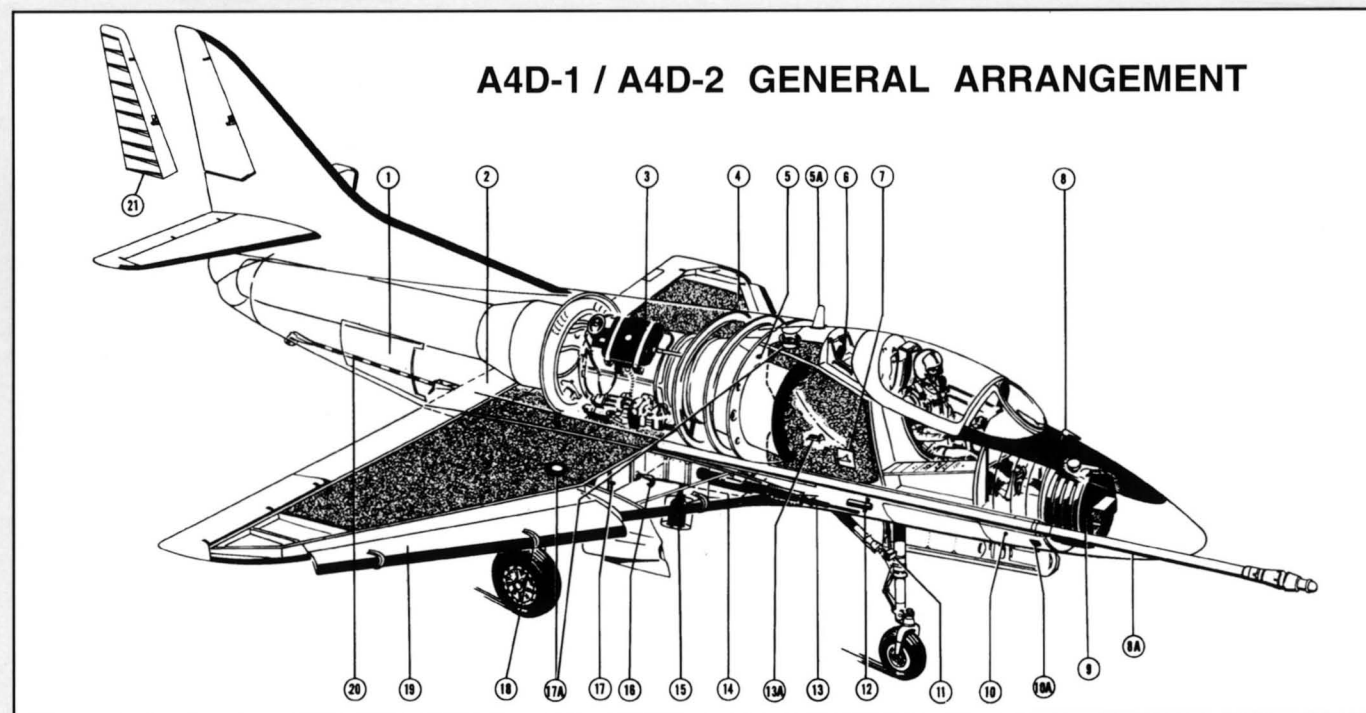
Wings	259.82 sq ft
Ailerons	16.33 sq ft
Flaps (total)	22.25 sq ft
Horizontal stabilizer (including elevators)	46.54 sq ft
Elevators (total)	11.33 sq ft
Vertical fin (less rudder)	41.03 sq ft
Rudder	9.21 sq ft

LANDING GEAR:

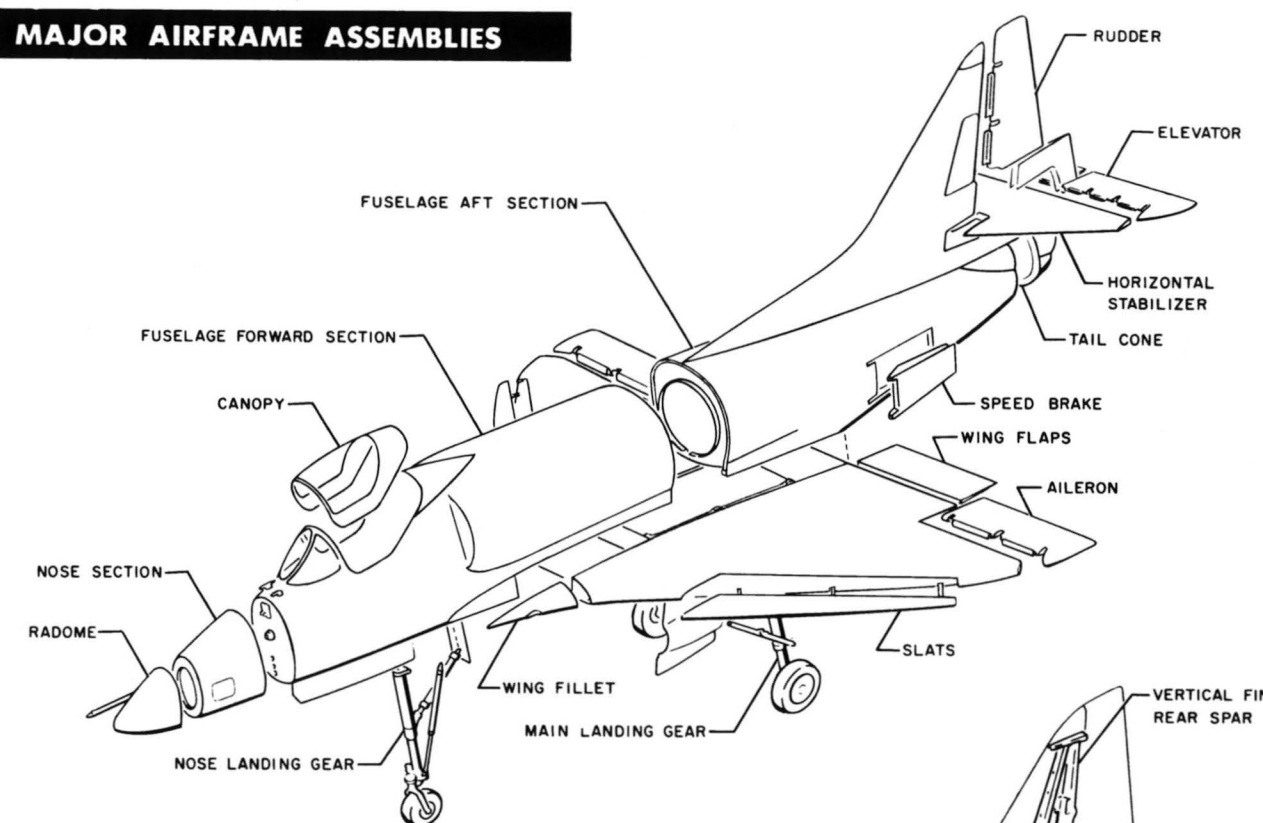
Main gear wheel tread	7' 9-1/2"
Main gear wheel base	11' 11-1/8"
Arresting hook travel	64°

GENERAL ARRANGEMENT

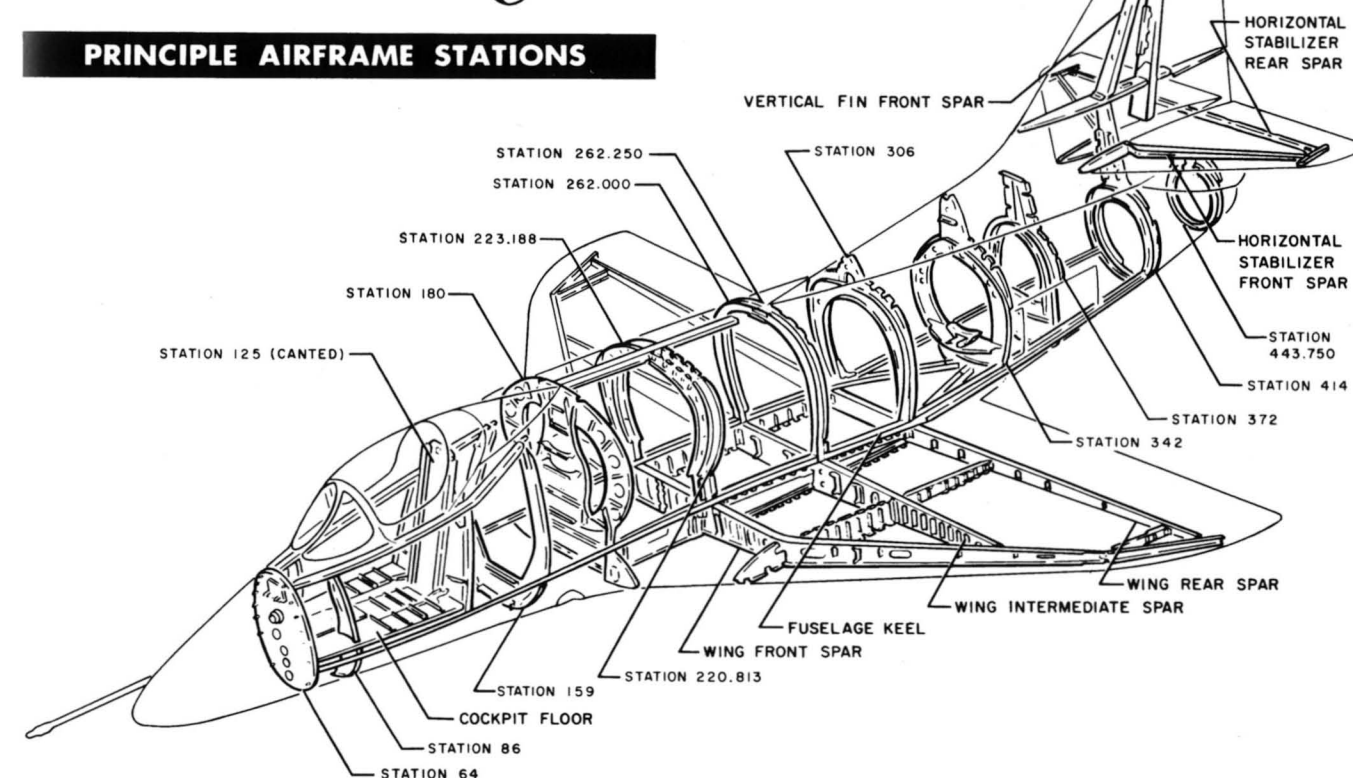
- 1.) Speedbrakes
- 2.) Aft engine compartment access door
- 3.) Oil tank
- 4.) Integral wing tank
- 5.) Fuel nozzle grounding receptacle
- 5A.) Antenna
- 6.) Cockpit canopy air bungee cylinder
- 7.) External canopy jettison handle
- 8.) Pitot tube
- 8A.) Fueling probe
- 9.) AN/ASQ-17 integrated electronic central
- 10.) Static vent
- 10A.) Static vent (A4D-2)
- 11.) Approach light
- 12.) Emergency generator
- 13.) Mk 12 MOD 0 20mm gun
- 13A.) External power receptacle
- 14.) Forward engine compartment and accessory section access door
- 15.) External pneumatic starter
- 16.) Catapult hook
- 17.) Fuel nozzle grounding receptacle
- 17A.) Fueling points
- 18.) Barricade strap detent
- 19.) Wing slat
- 20.) Arresting hook
- 21.) Tadpole rudder (A4D-2)



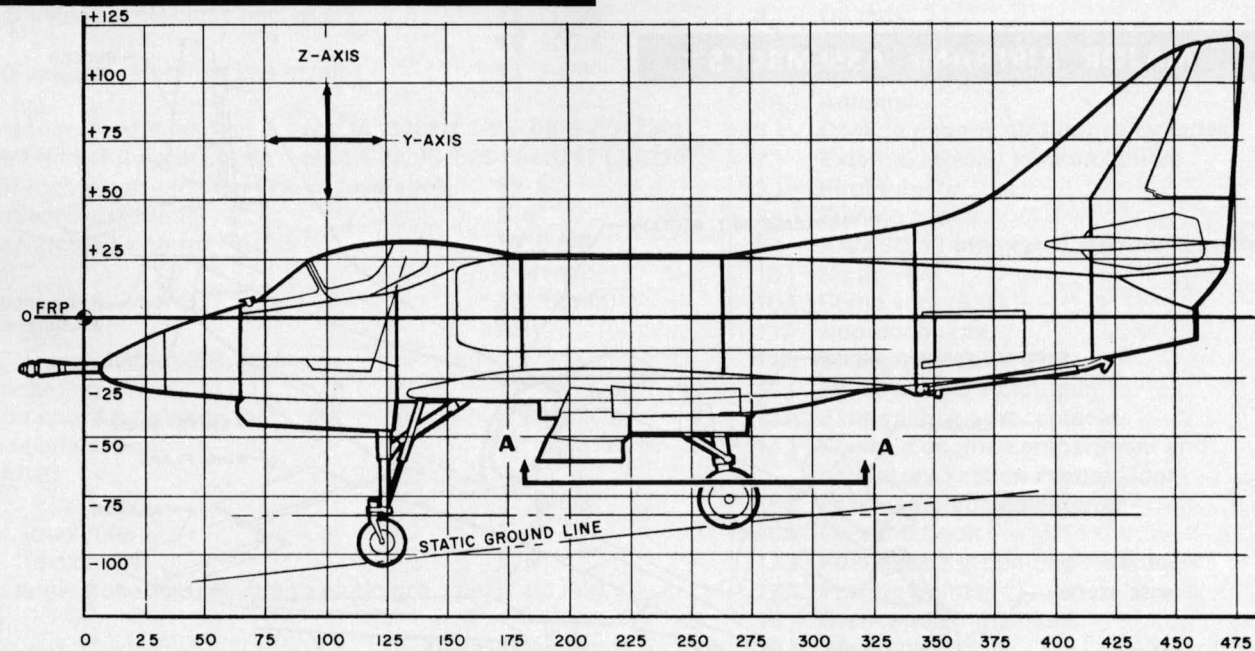
MAJOR AIRFRAME ASSEMBLIES



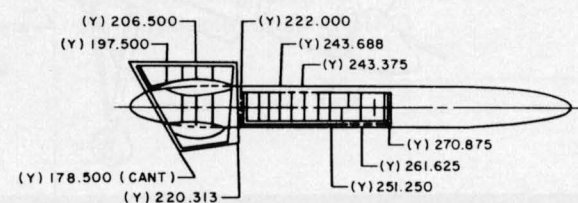
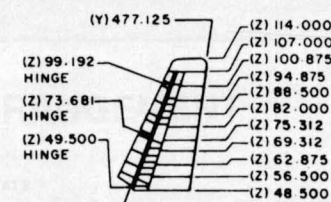
PRINCIPLE AIRFRAME STATIONS



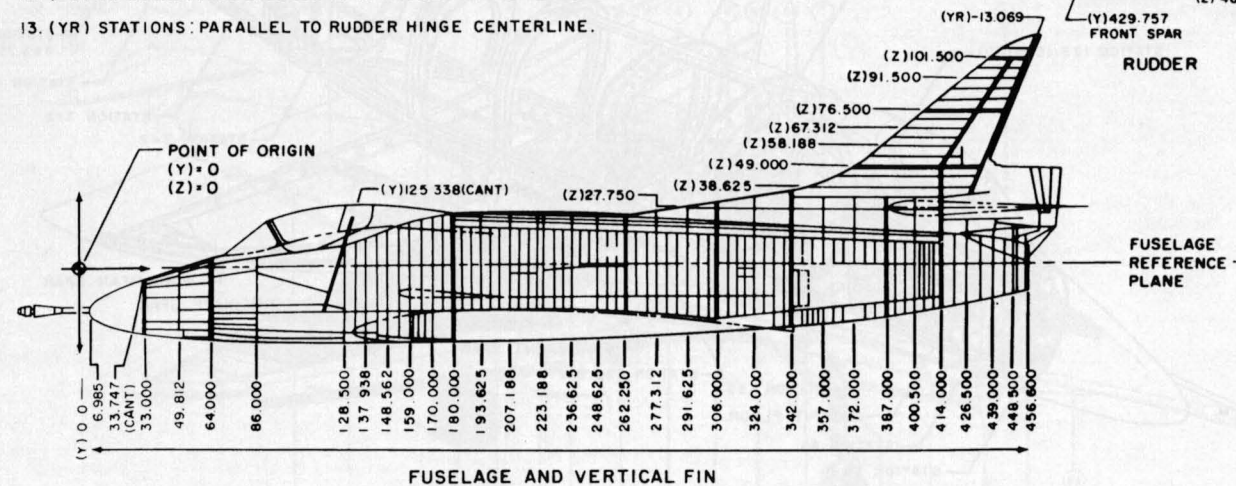
STATION INDEX



1. (X) STATIONS: PARALLEL TO FUSELAGE PLANE OF SYMMETRY AND PERPENDICULAR TO FUSELAGE REFERENCE PLANE.
2. (Y) STATIONS: PERPENDICULAR TO FUSELAGE REFERENCE PLANE AND FUSELAGE PLANE OF SYMMETRY.
3. (Z) STATIONS: PARALLEL TO FUSELAGE REFERENCE PLANE AND PERPENDICULAR TO FUSELAGE PLANE OF SYMMETRY.
4. (XLE) STATIONS: PERPENDICULAR TO LEADING EDGE OF SLAT AND WING.
5. (YLE) STATIONS: PARALLEL TO LEADING EDGE OF SLAT AND WING.
6. (XFS) STATIONS: PERPENDICULAR TO FRONT SPAR.
7. (XH) STATIONS: PERPENDICULAR TO SLAT HINGE CENTERLINE.
8. (YH) STATIONS: PARALLEL TO SLAT HINGE CENTERLINE.
9. (XF) STATIONS: PERPENDICULAR TO TRAILING EDGE OF WING.
10. (XA) STATIONS: PERPENDICULAR TO AILERON HINGE CENTERLINE.
11. (YA) STATIONS: PARALLEL TO AILERON HINGE CENTERLINE.
12. (ZR) STATIONS: PERPENDICULAR TO RUDDER HINGE CENTERLINE.
13. (YR) STATIONS: PARALLEL TO RUDDER HINGE CENTERLINE.

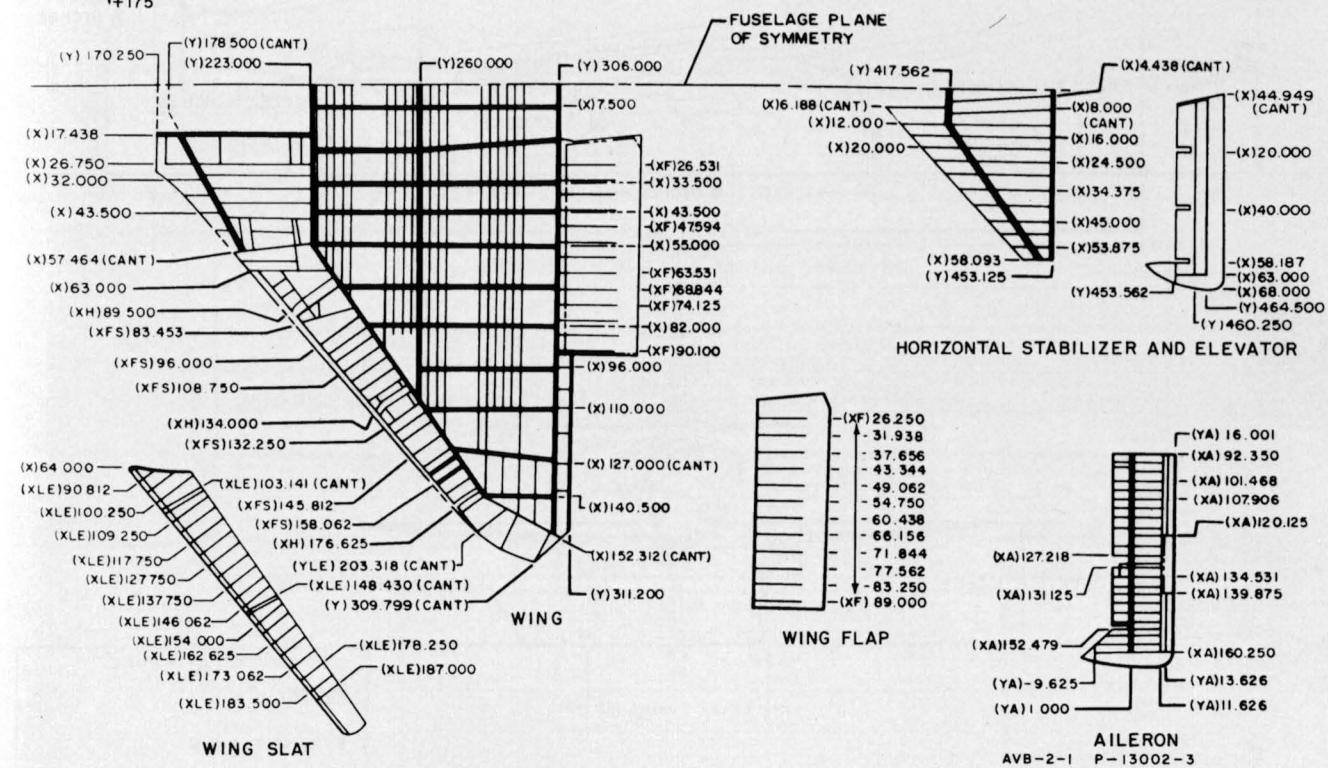
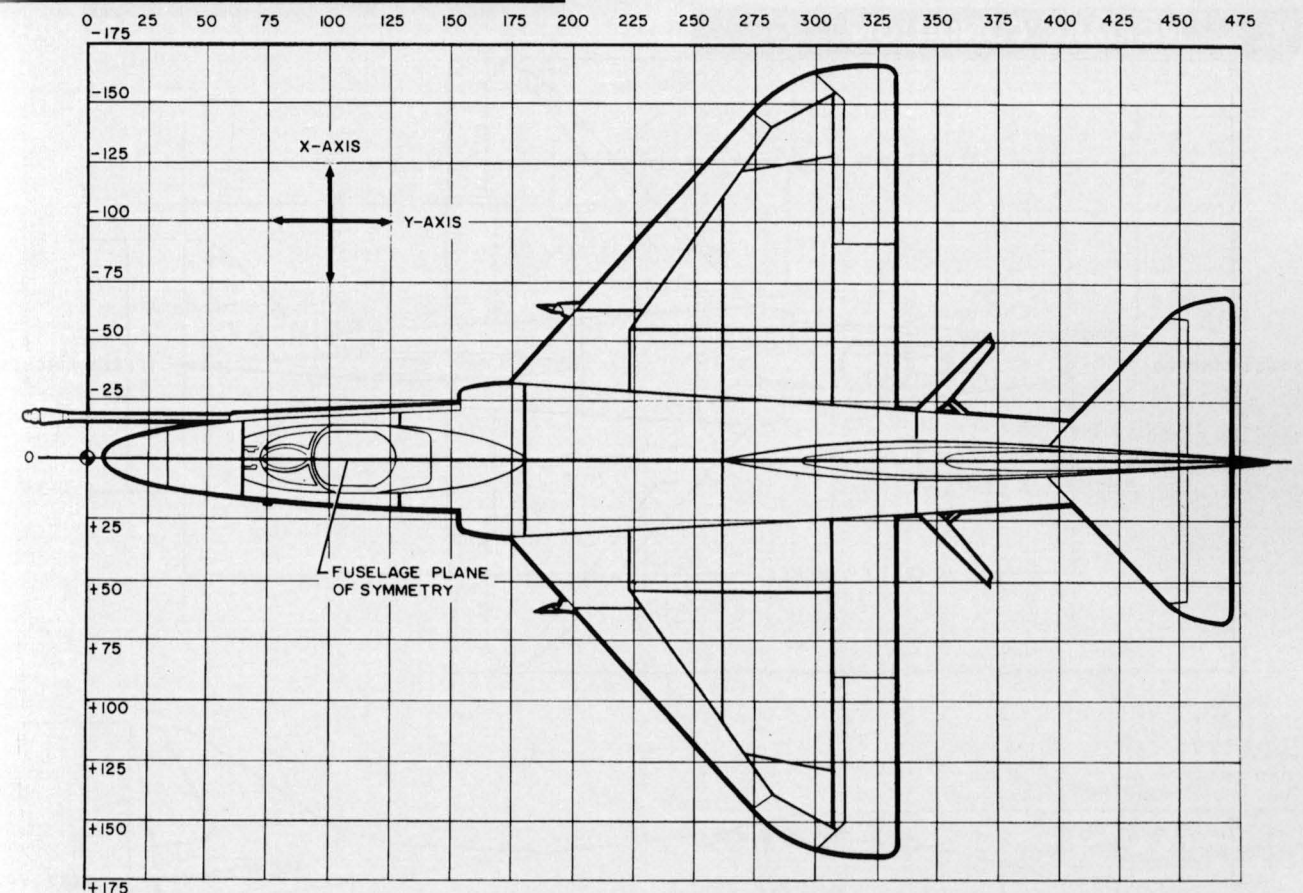
VIEW A-A
MAIN LANDING GEAR FAIRING

RUDDER



FUSELAGE AND VERTICAL FIN

STATION INDEX cont.



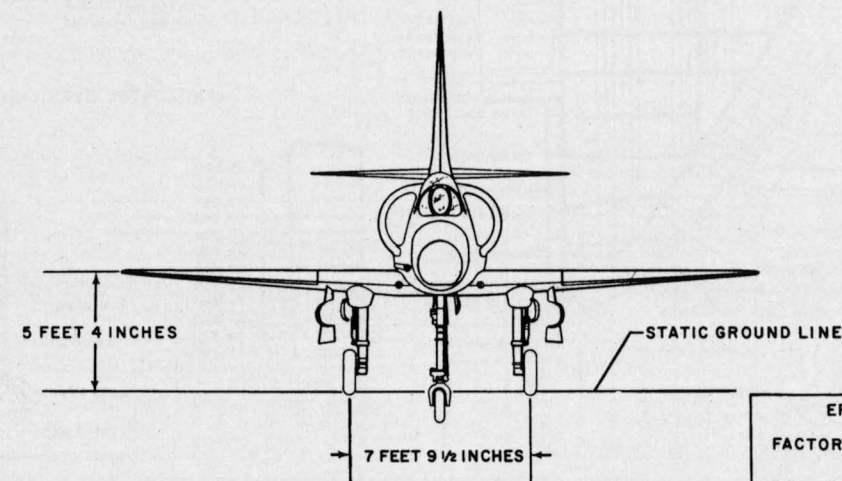
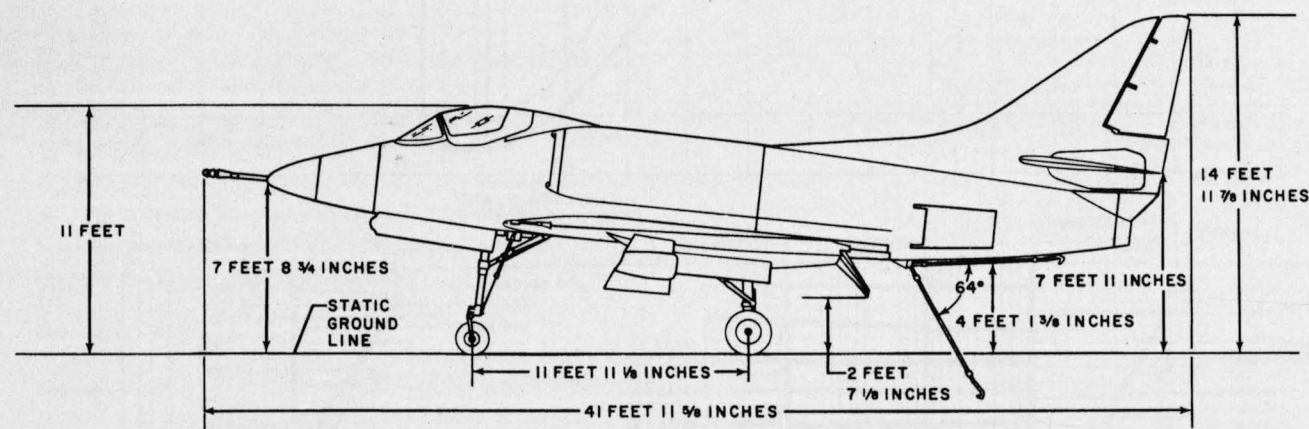
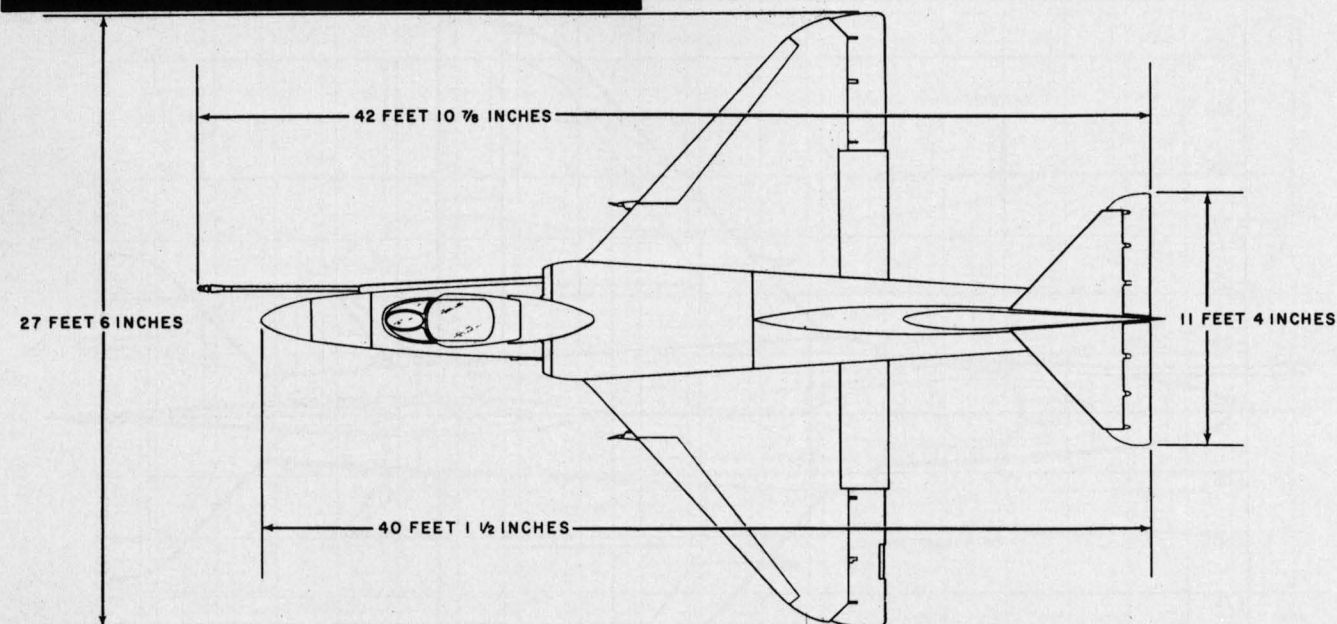
HORIZONTAL STABILIZER AND ELEVATOR

WING FLAP

AILERON

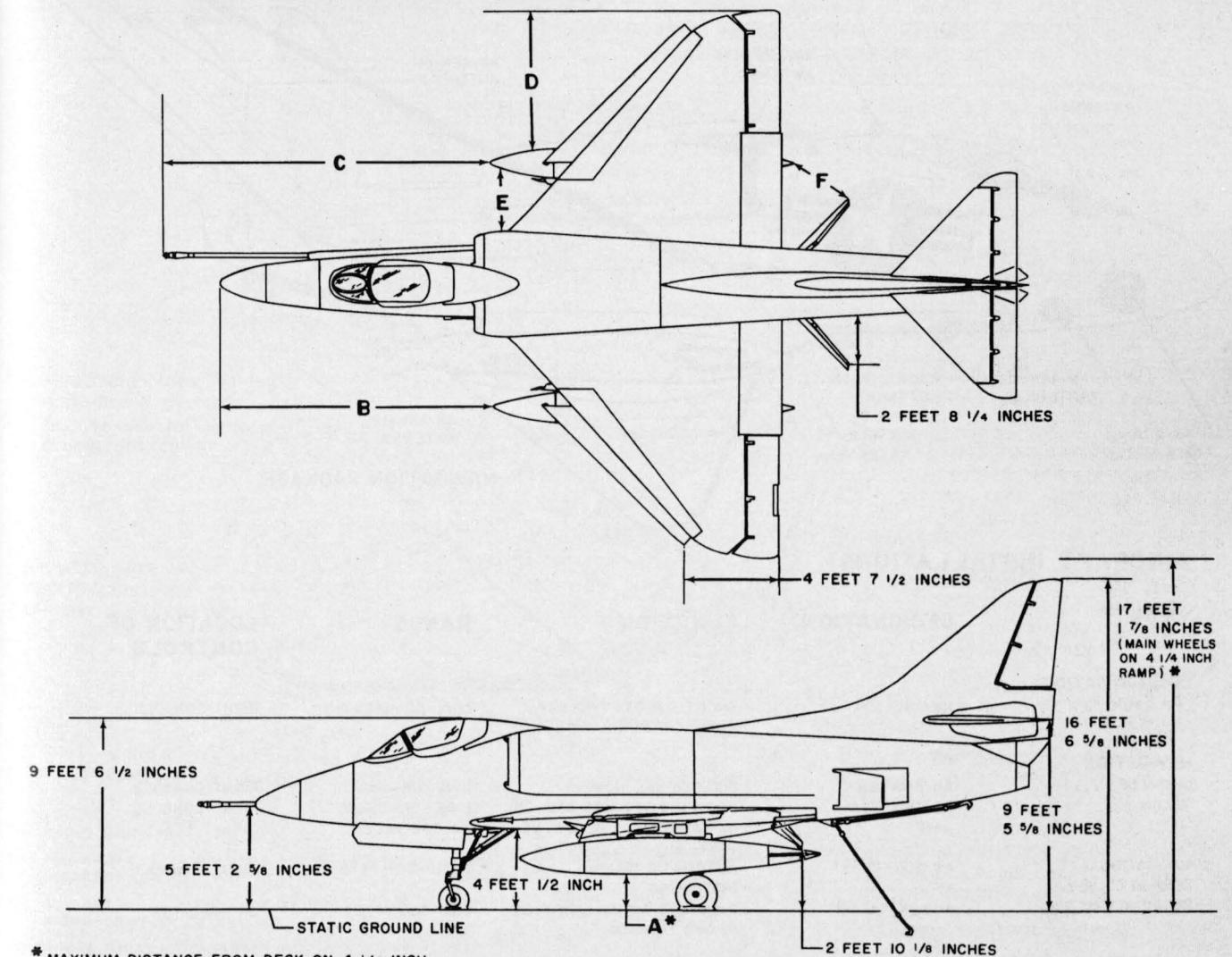
AVB-2-1 P-13002-3

NORMAL CONDITION



EFFECTIVITY-BUNO.
FACTORY: ALL
SERV CHG: NONE

ABNORMAL CONDITION



* MAXIMUM DISTANCE FROM DECK ON 4 1/4 INCH RAMP WITH TIRES FLAT AND STRUTS DEPRESSED

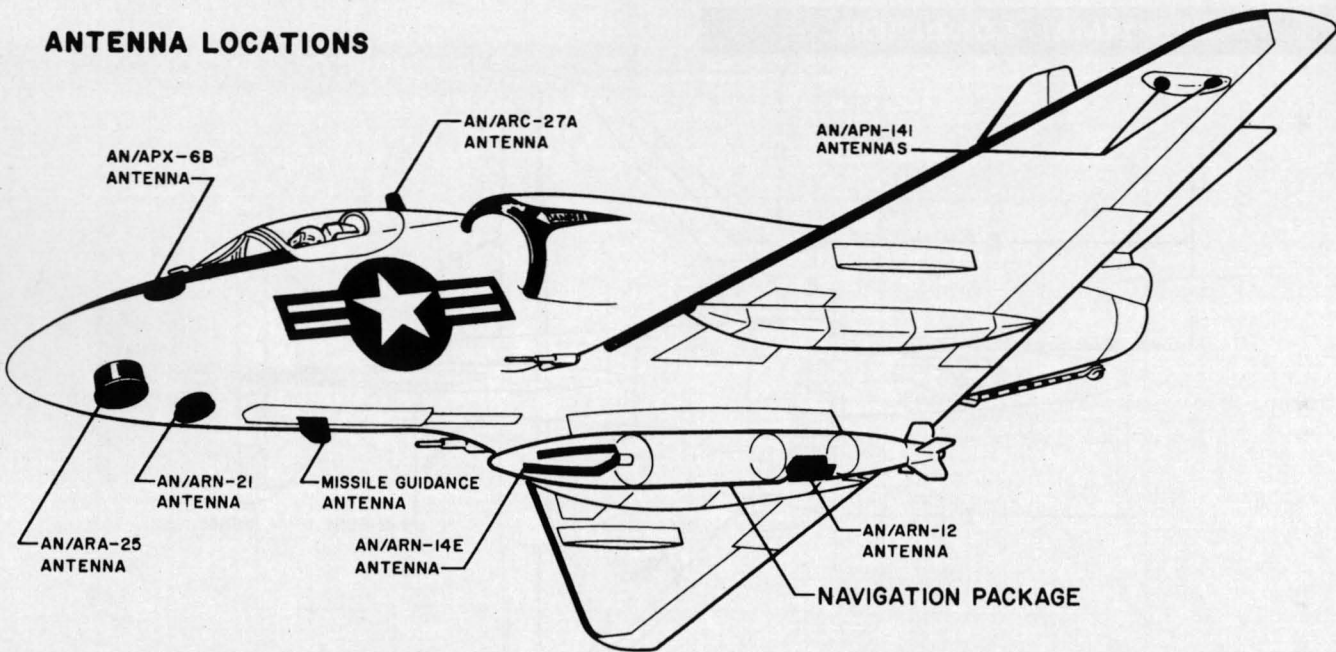
ABNORMAL CONDITIONS TANK CLEARANCES

WING TANK	A*	B	C	D	E	F
150 GALLON	1 FOOT 8 7/8 INCHES	12 FEET 9 7/8 INCHES	15 FEET 5 5/8 INCHES	6 FEET 5 5/8 INCHES	3 FEET 10 1/8 INCHES (TO AIR INTAKE DUCT)	3 FEET 5 1/4 INCHES
300 GALLON	1 FOOT 3 1/2 INCHES	11 FEET 1 1/2 INCHES	13 FEET 11 INCHES	6 FEET 2 5/8 INCHES	4 FEET 9 1/4 INCHES (TO FUSELAGE)	2 FEET 2 3/8 INCHES
		FUSELAGE CENTER LINE TANKS		A*		
		150 GALLON		1 FOOT 7 3/8 INCHES		
		300 GALLON		1 FOOT 1 3/4 INCHES		
		INFLIGHT FUELING STORE		9 3/4 INCHES		

NORMAL CONDITIONS TANK CLEARANCES

WING TANK	FUSELAGE CENTER LINE TANKS
150 GALLON	2 FEET 1/4 INCH
300 GALLON	1 FOOT 6 1/8 INCHES
	INFLIGHT FUELING STORE
	3 1/8 INCHES

ANTENNA LOCATIONS

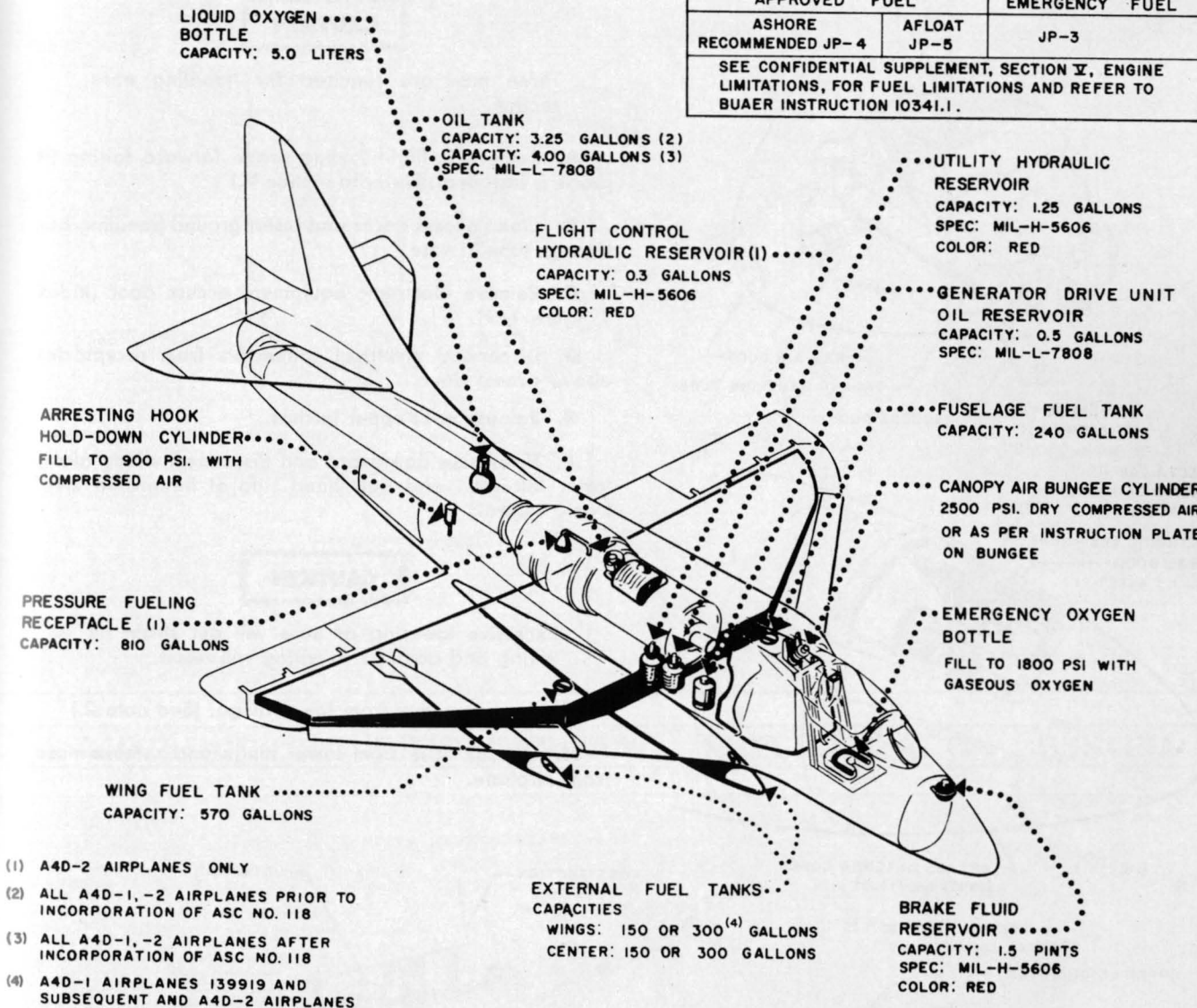


AIRCRAFT INSTALLATIONS

TYPE	DESIGNATION	FUNCTION	RANGE	LOCATION OF CONTROLS
COMMUNICATION UHF RADIO	AN/ARC-27A	SHORT RANGE-TWO WAY VOICE COMMUNICATION	LINE-OF-SIGHT	RIGHT CONSOLE
NAVIGATION UHF-ADF TACAN	AN/ARA-25 AN/ARN-21	DIRECTIONAL HOMING PROVIDES BEARING AND DISTANCE TO A SELECTED STATION	LINE-OF-SIGHT LINE-OF-SIGHT TO 200 MILES	RIGHT CONSOLE RIGHT CONSOLE
NAVIGATIONAL COMPUTER SET RADAR ALTIMETER	AN/ASN-19 (1) AN/APN-141 (2)	AUTOMATIC DEAD RECKONING INDICATES ACTUAL ALTITUDE ABOVE TERRAIN	72°N-TO-72°S 0-TO-5000 FEET	RIGHT CONSOLE ON INDICATOR
NAVIGATION (WHEN CARRIED) OMNI RANGE RECEIVER MARKER BEACON RECEIVER	AN/ARN-14E AN/ARN-12	DIRECTIONAL HOMING INDICATES MARKER BEACON POSITION	LINE-OF-SIGHT WITHIN MARKER BEACON SIGNAL PATTERN	LEFT CONSOLE LEFT CONSOLE
IDENTIFICATION IFF RADAR SIF RADAR	AN/APX-6B AN/APA-89	IDENTIFIES AS FRIENDLY IDENTIFICATION CODER	LINE-OF-SIGHT LINE-OF-SIGHT	RIGHT CONSOLE RIGHT CONSOLE
WEAPONS DELIVERY (WHEN CARRIED) AIR TO GROUND (1) MISSILE COMPASS CONTROLLER	(SEE SUPPLEMENT)	GUIDED MISSILE PROVIDES MAGNETIC OR FREE GYRO HEADING INDICATIONS TO ID-250/ARN COMPASS CARD	LINE-OF-SIGHT 360° OF ROTATION 0°-90° NORTH 0°-90° SOUTH	LEFT CONSOLE AND CONTROL STICK RIGHT CONSOLE

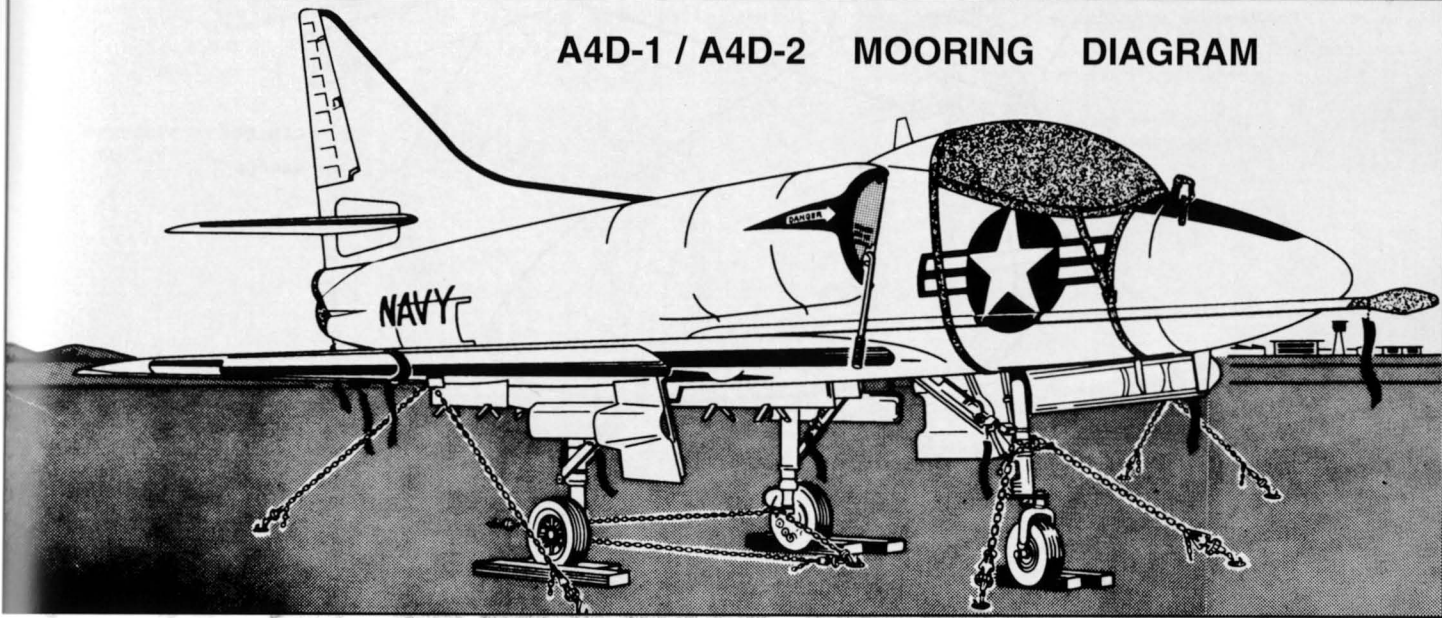
(1) A4D-2 AIRPLANES ONLY
(2) A4D-2 AIRPLANES INCORPORATING ASC NO. 200

FUEL SPECIFICATIONS		
APPROVED FUEL	AFLOAT	EMERGENCY FUEL
ASHORE RECOMMENDED JP-4	JP-5	JP-3
SEE CONFIDENTIAL SUPPLEMENT, SECTION V, ENGINE LIMITATIONS, FOR FUEL LIMITATIONS AND REFER TO BUAE INSTRUCTION 10341.1.		



- (1) A4D-2 AIRPLANES ONLY
- (2) ALL A4D-1, -2 AIRPLANES PRIOR TO INCORPORATION OF ASC NO. 118
- (3) ALL A4D-1, -2 AIRPLANES AFTER INCORPORATION OF ASC NO. 118
- (4) A4D-1 AIRPLANES 139919 AND SUBSEQUENT AND A4D-2 AIRPLANES

A4D-1 / A4D-2 MOORING DIAGRAM



REMOVAL

CAUTION

Three men are required for handling nose section.

A. Remove in-flight fueling probe forward fairing (if probe is installed). (Refer to section V.)

B. Open access doors and insert ground handling bar through tube in nose.

C. Remove electronic equipment access door (index 1 figure 1-7).

D. Disconnect electrical connectors from receptacles above access door.

E. Release nose upper latches.

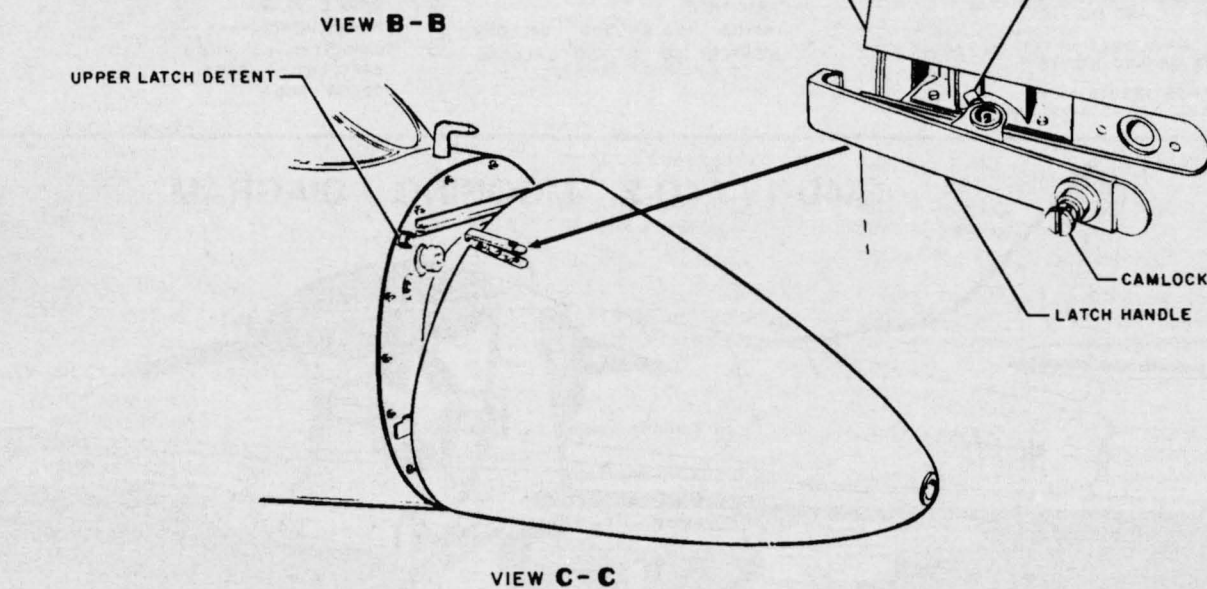
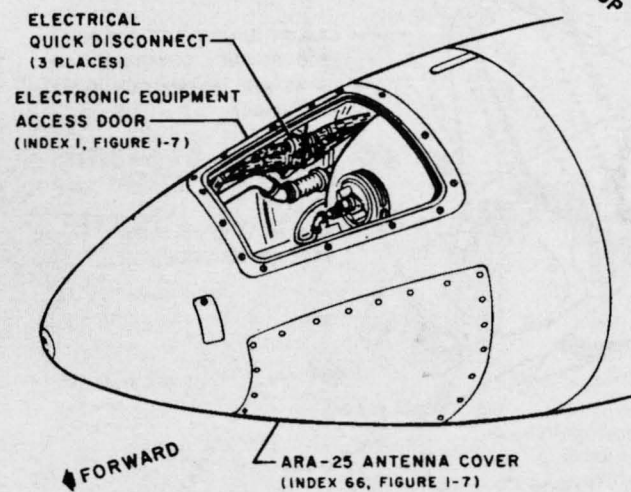
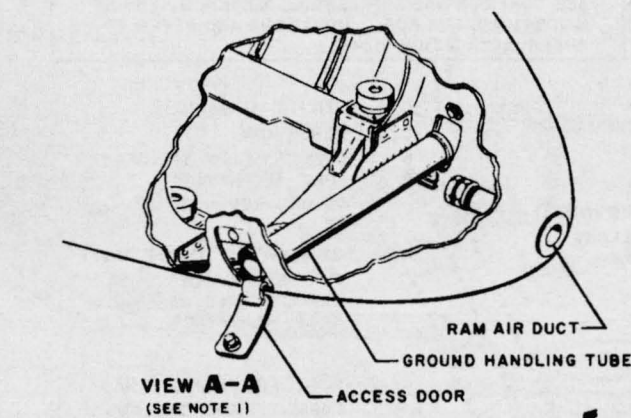
F. Pivot nose downward and disconnect wiring along lower left-hand and right-hand side of integrated electronic central.

CAUTION

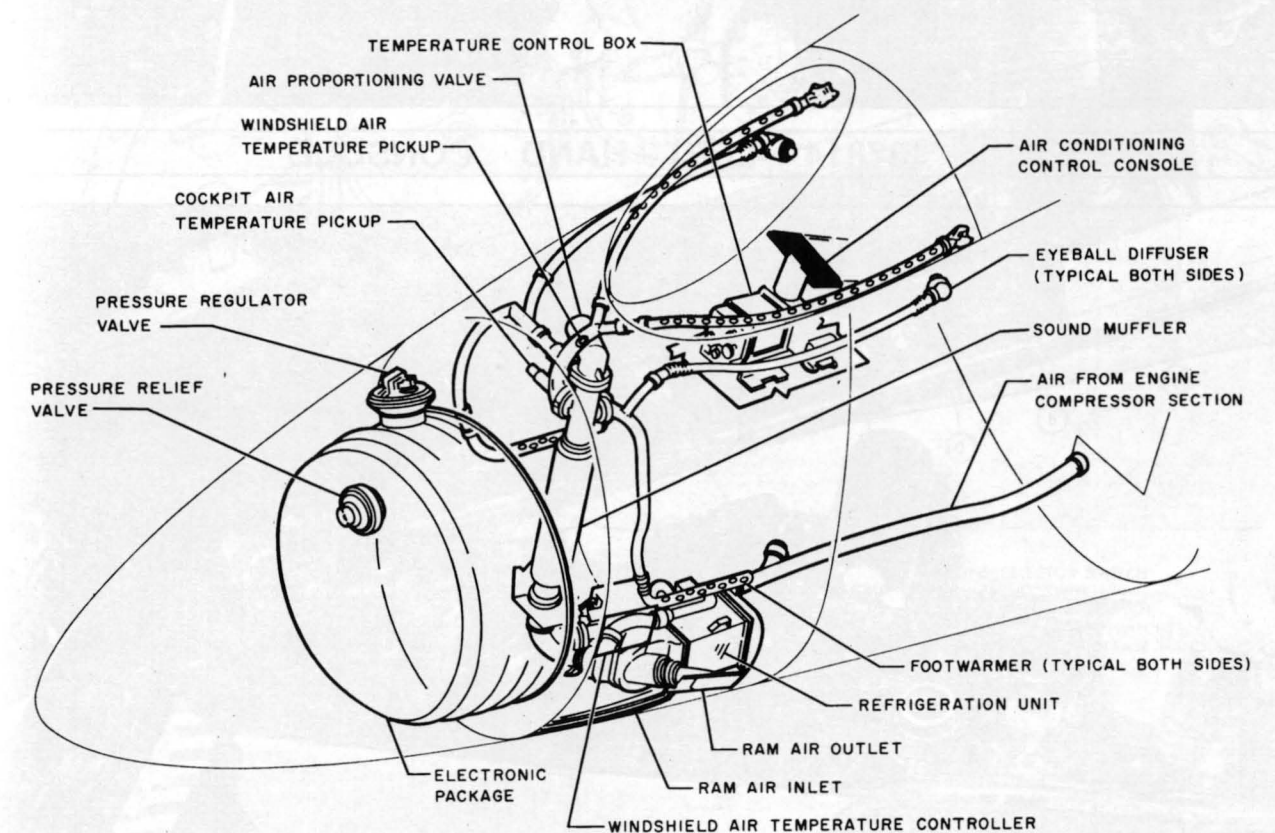
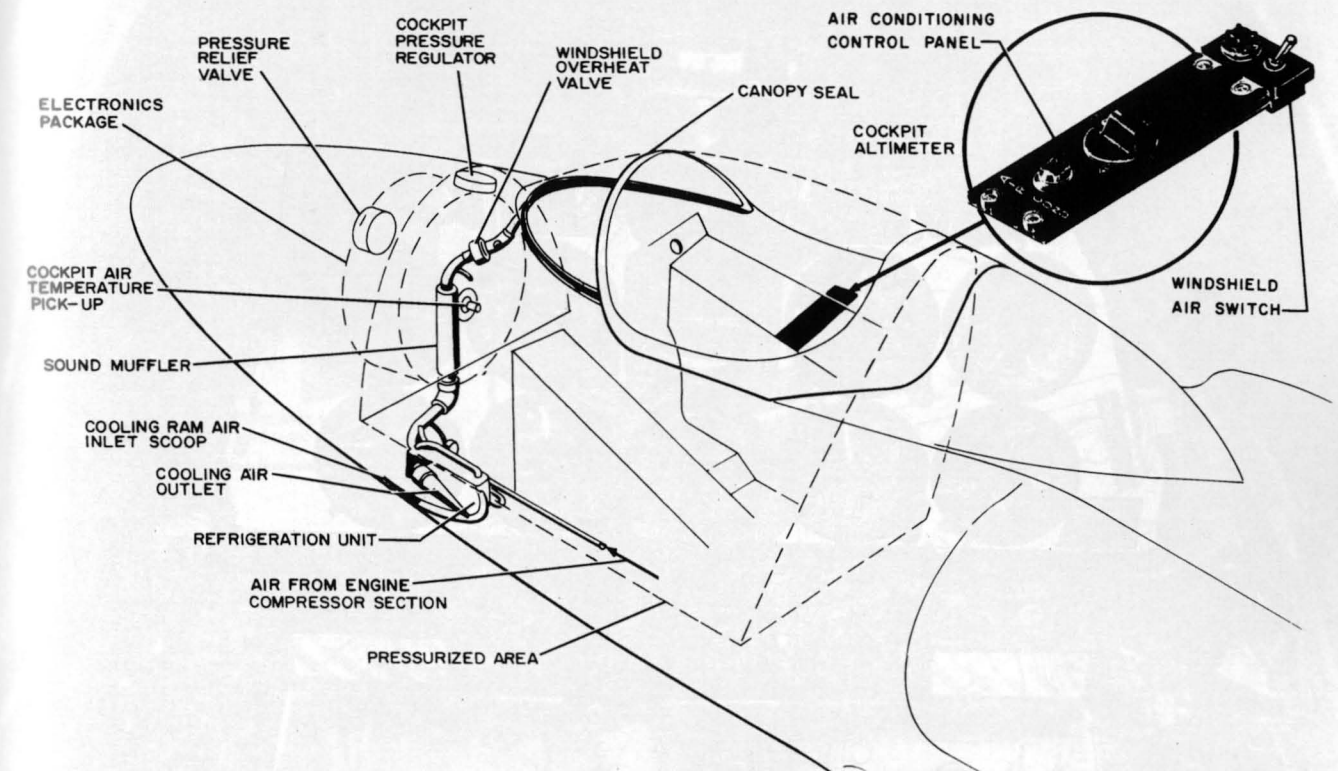
Excessive lowering of nose will put strain on wiring and damage to wiring will result.

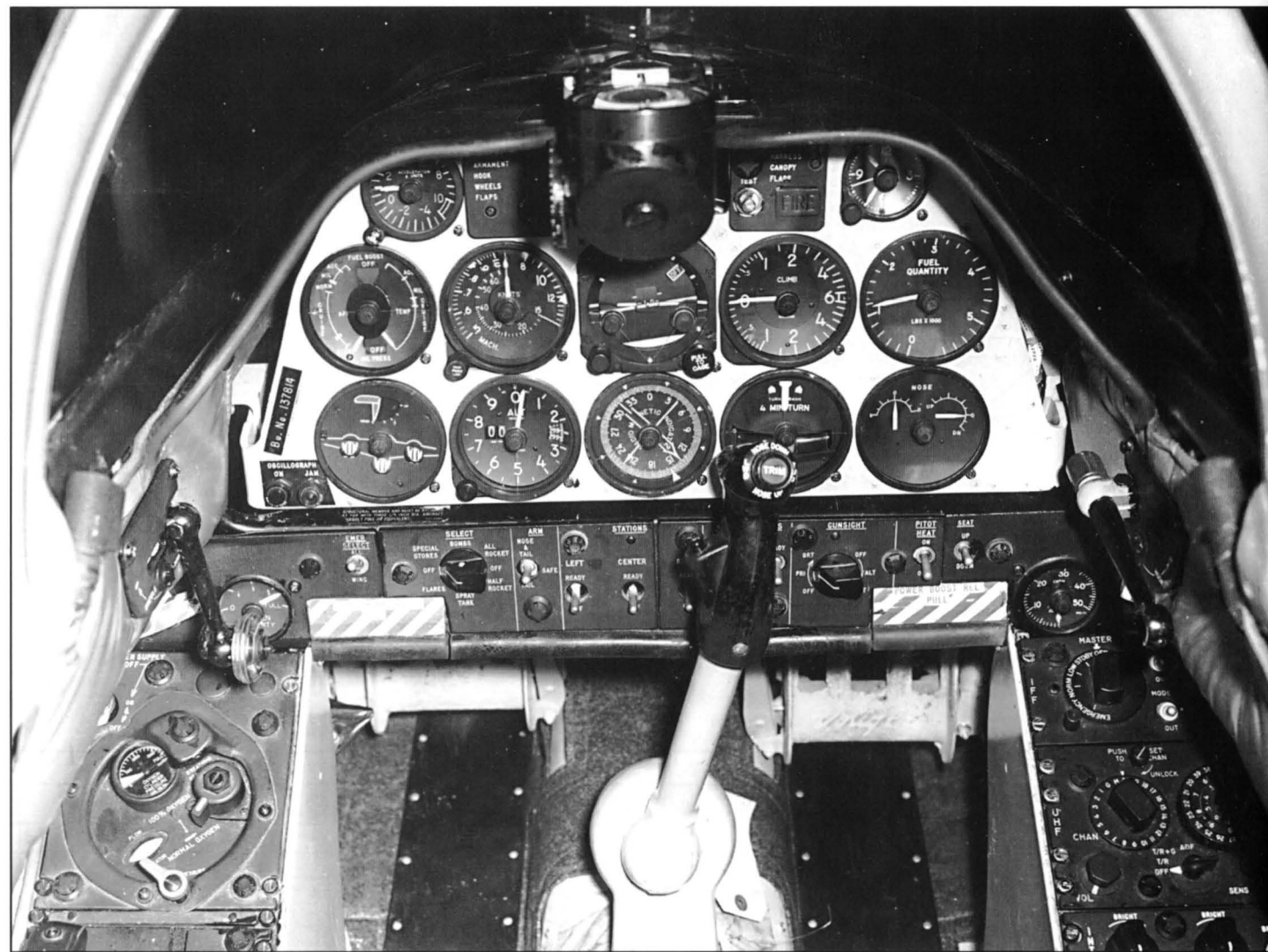
G. Remove screw from lower hinge. (See note 2.)

H. Unhook nose from lower hinge and remove nose from airplane.

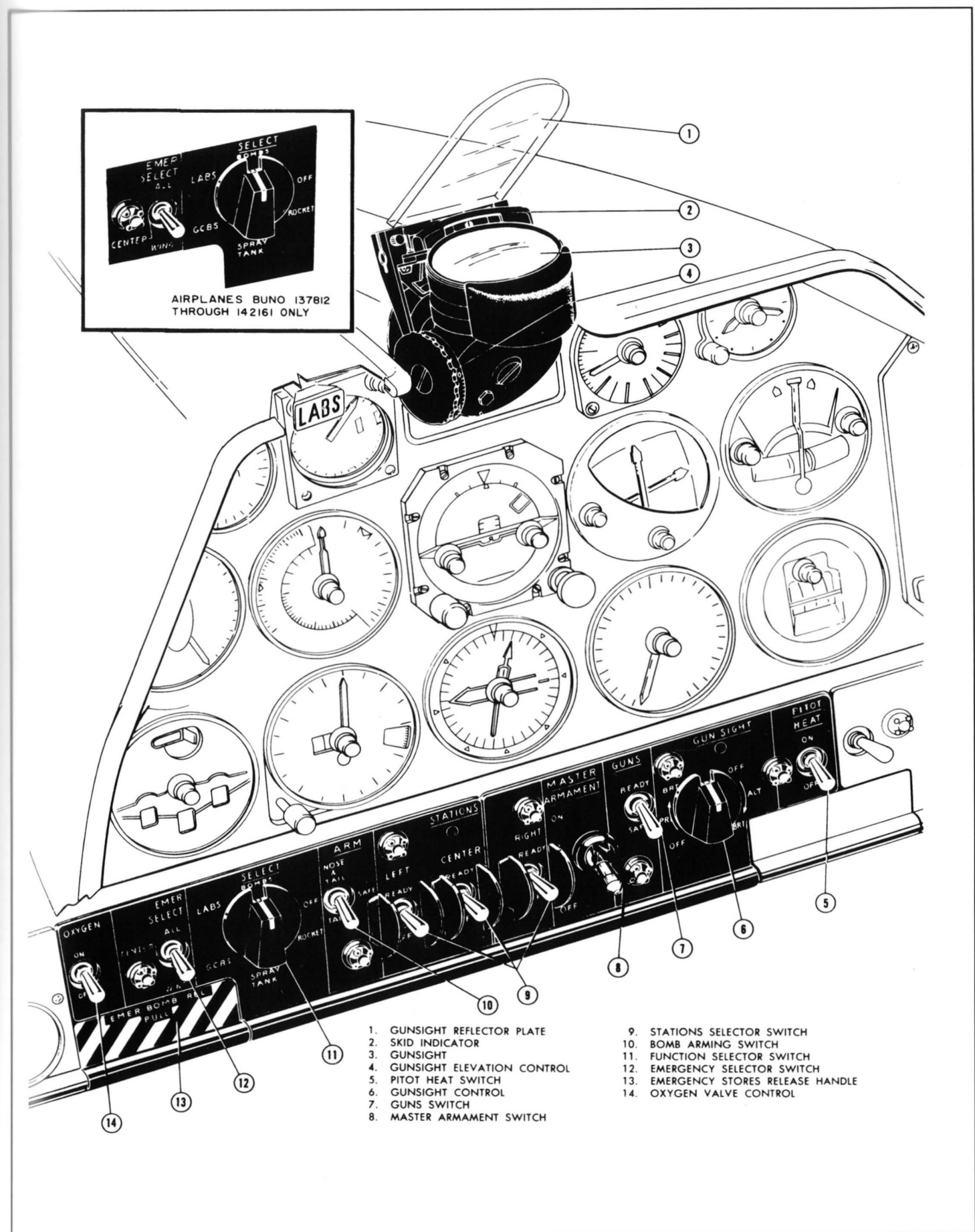
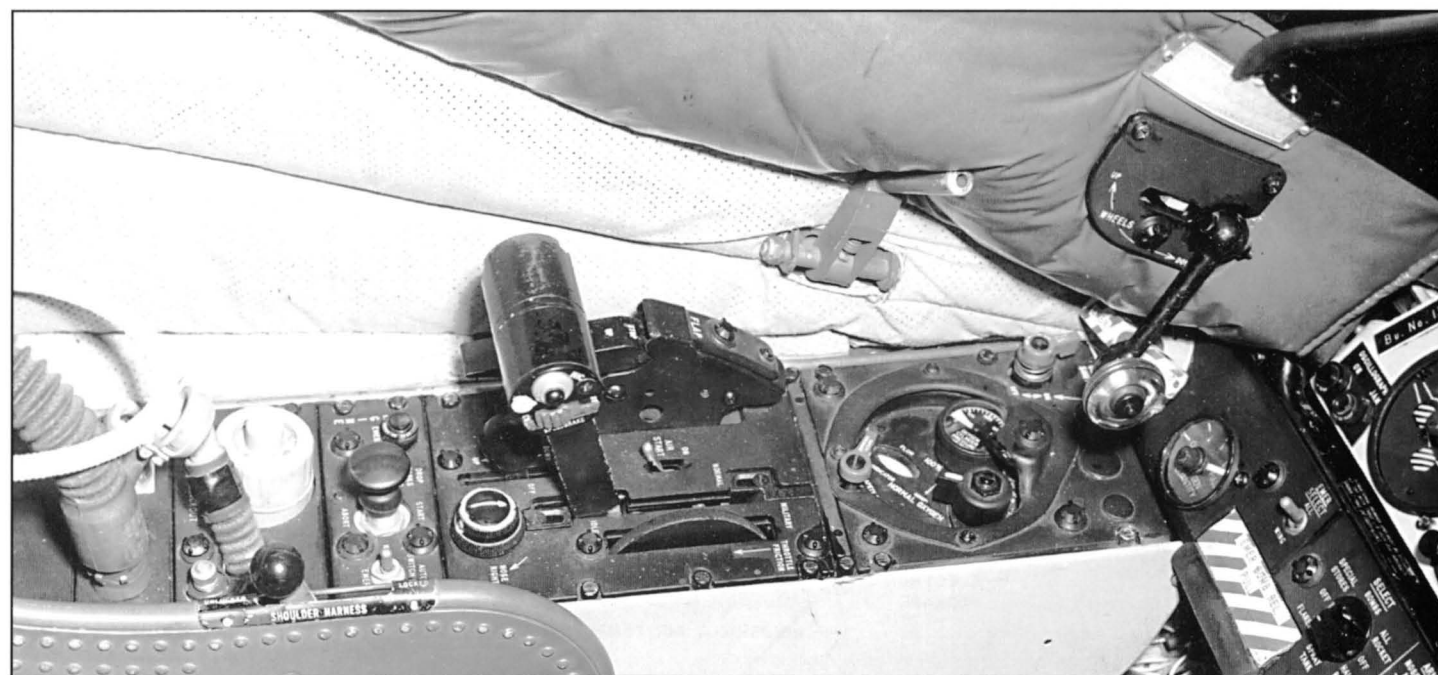


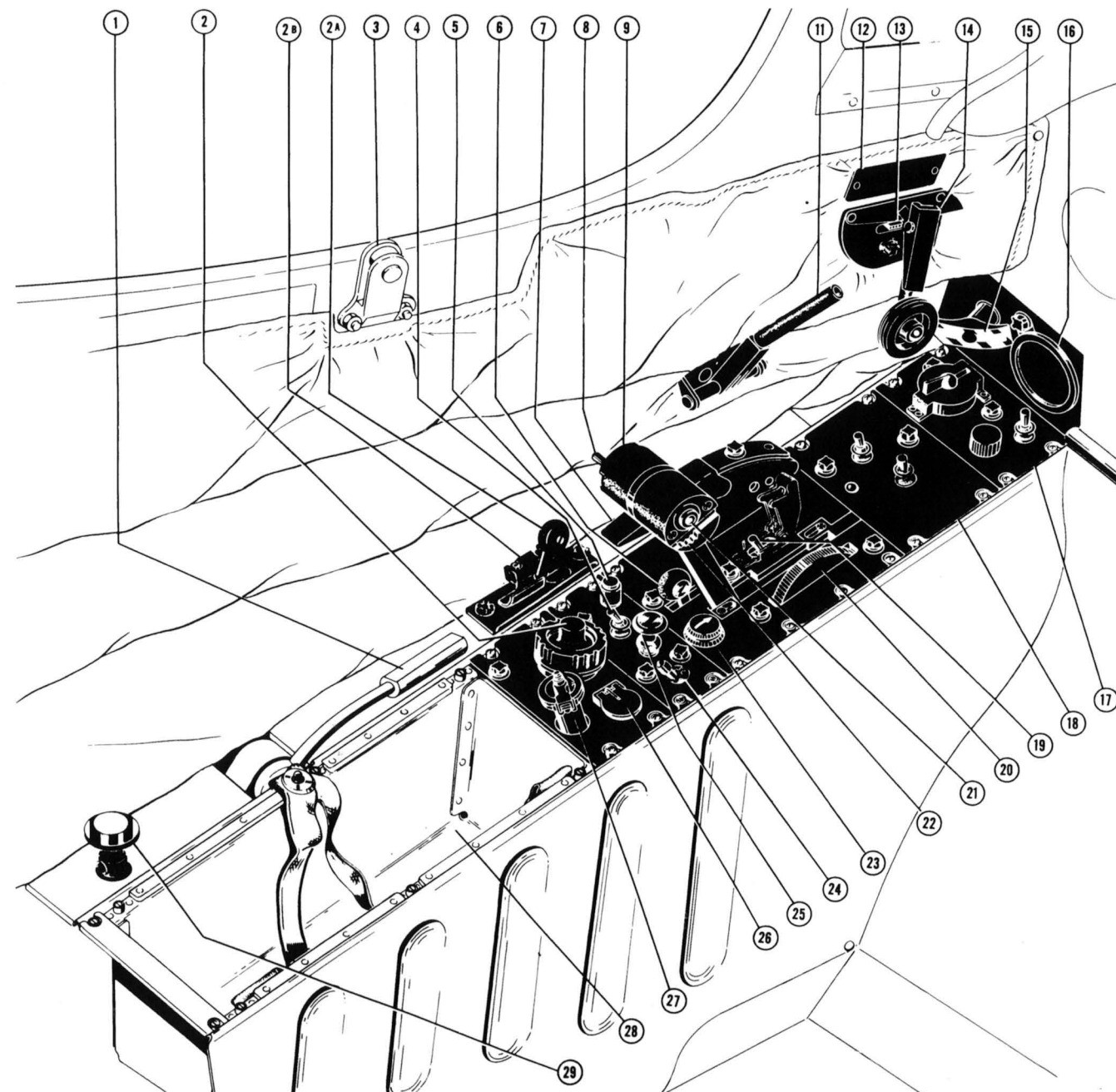
VIEW C-C



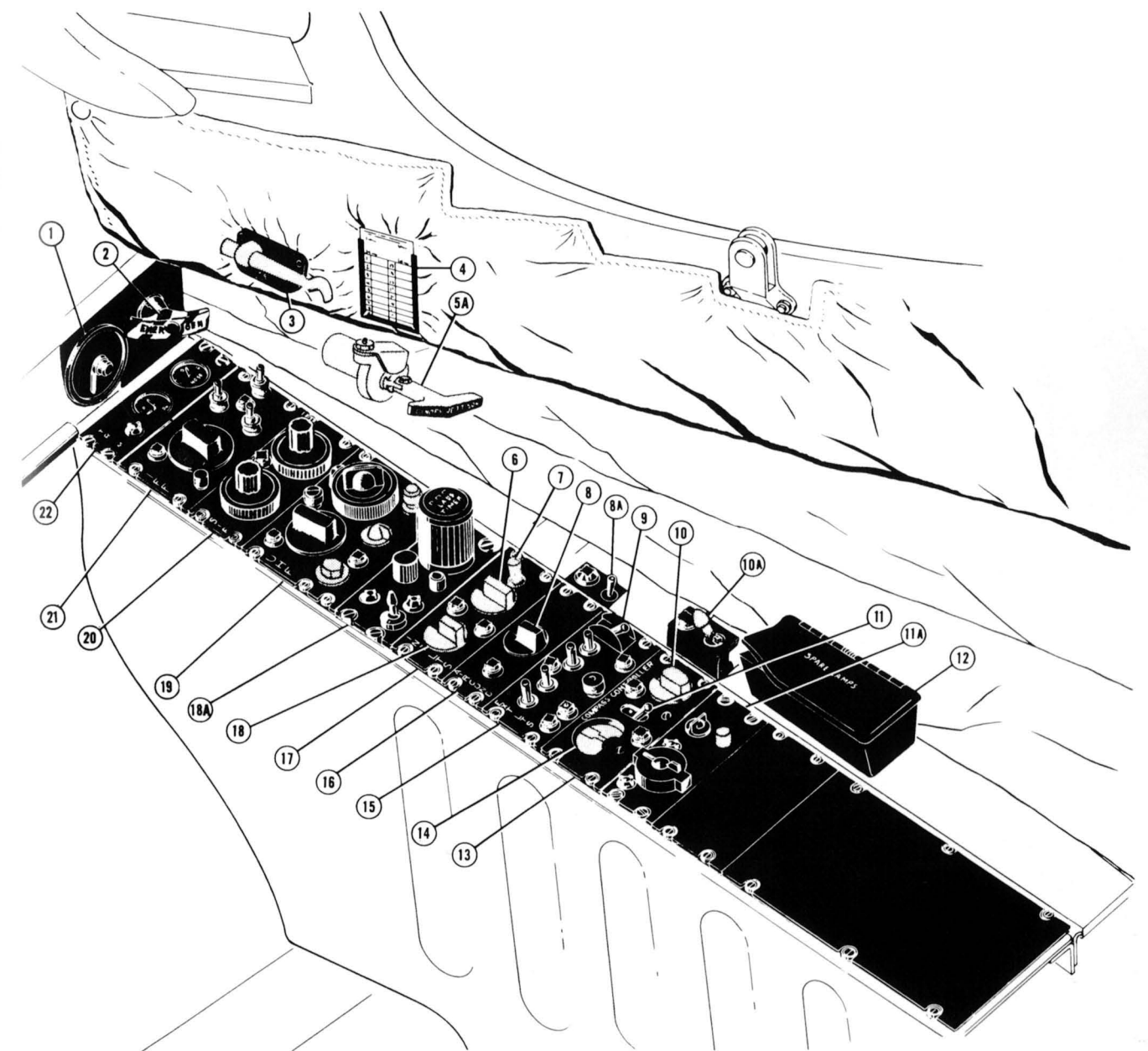


A4D-1 137814 LEFT - HAND CONSOLE



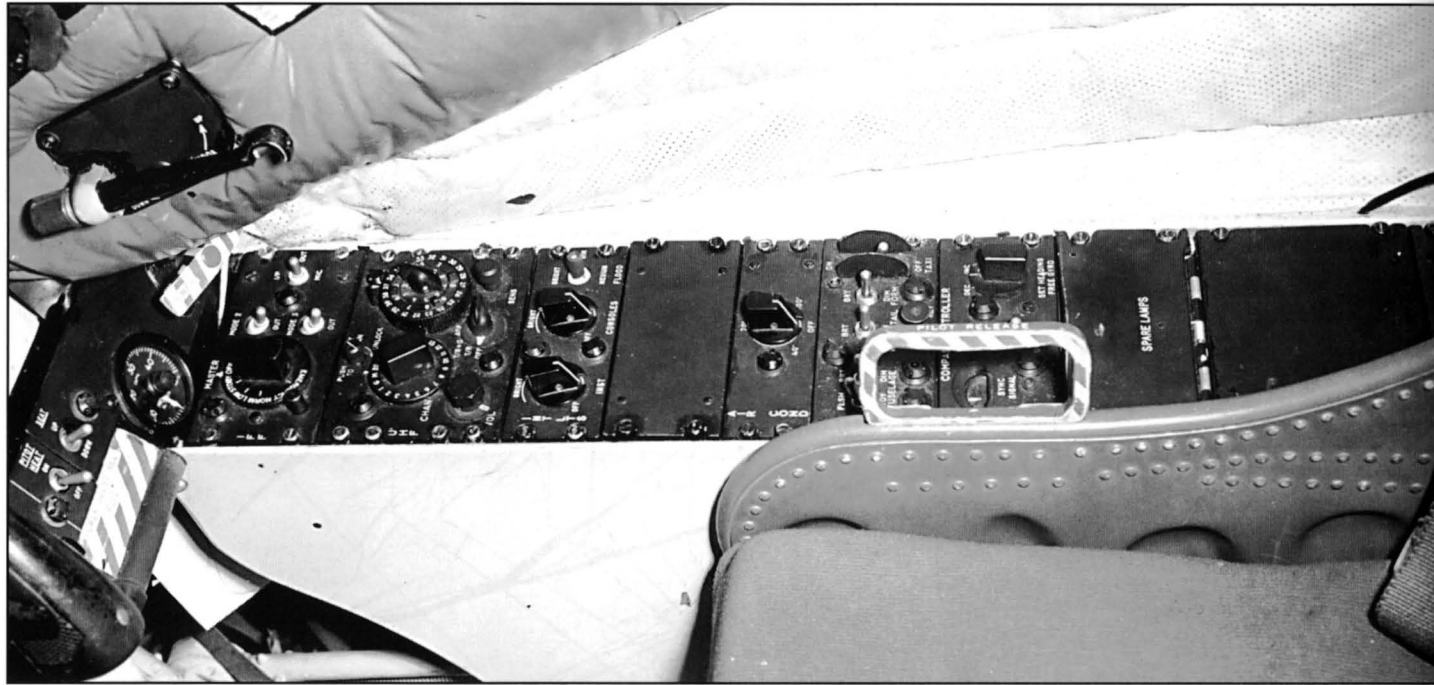


- | | | |
|--|--|--|
| 1. Canopy control | 8. Exterior lights master switch | 17. AN/ARN-14E omni-range radio control panel |
| 2. Anti-blackout control valve | 9. Throttle | 18. AN/ARN-12 marker beacon receiver control panel |
| 2A. Manual fuel valve control | 10. Deleted | 19. Air starting ignition switch |
| 2B. Manual fuel shutoff safety lock ⁽¹⁾ | 11. Catapult handgrip | 20. Throttle friction wheel |
| 3. Canopy latch roller | 12. Airspeed correction card | 21. Radio microphone switch |
| 4. External drop tanks pressurizing switch | 13. Landing gear retraction release switch | 22. Speedbrakes switch |
| 5. Manual fuel control system warning light | 14. Landing gear control | 23. Rudder trim switch |
| 6. Horizontal stabilizer manual override control | 15. Emergency landing gear release handle | 24. Fuel control system selector switch |
| 7. Wing flaps control | 16. Oxygen system quantity gauge | 25. Starter switch |
| | | 26. Oxygen and radio receptacle |
| | | 27. Anti-blackout suit hose connection |
| | | 28. Map case |
| | | 29. Emergency speedbrake control |

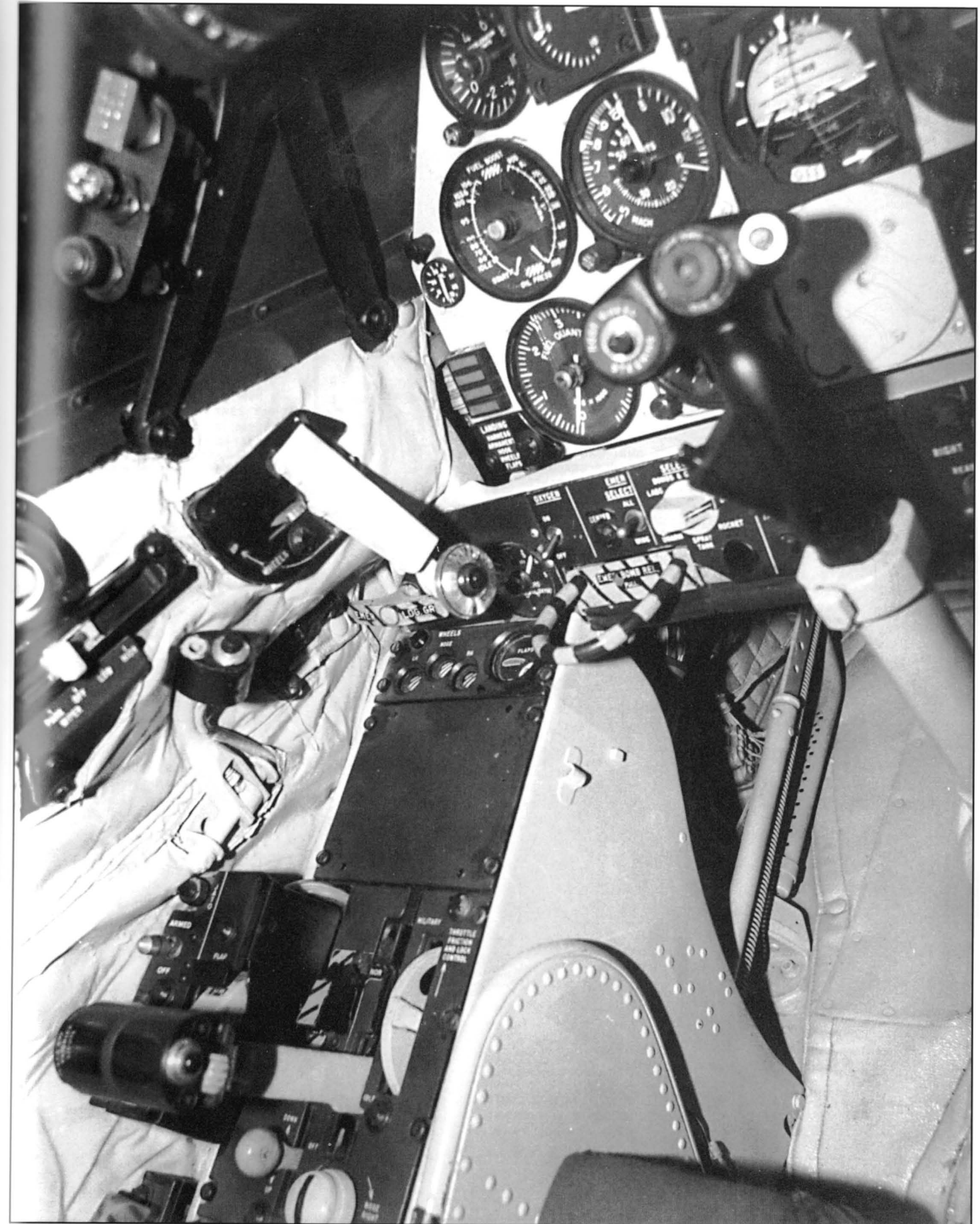
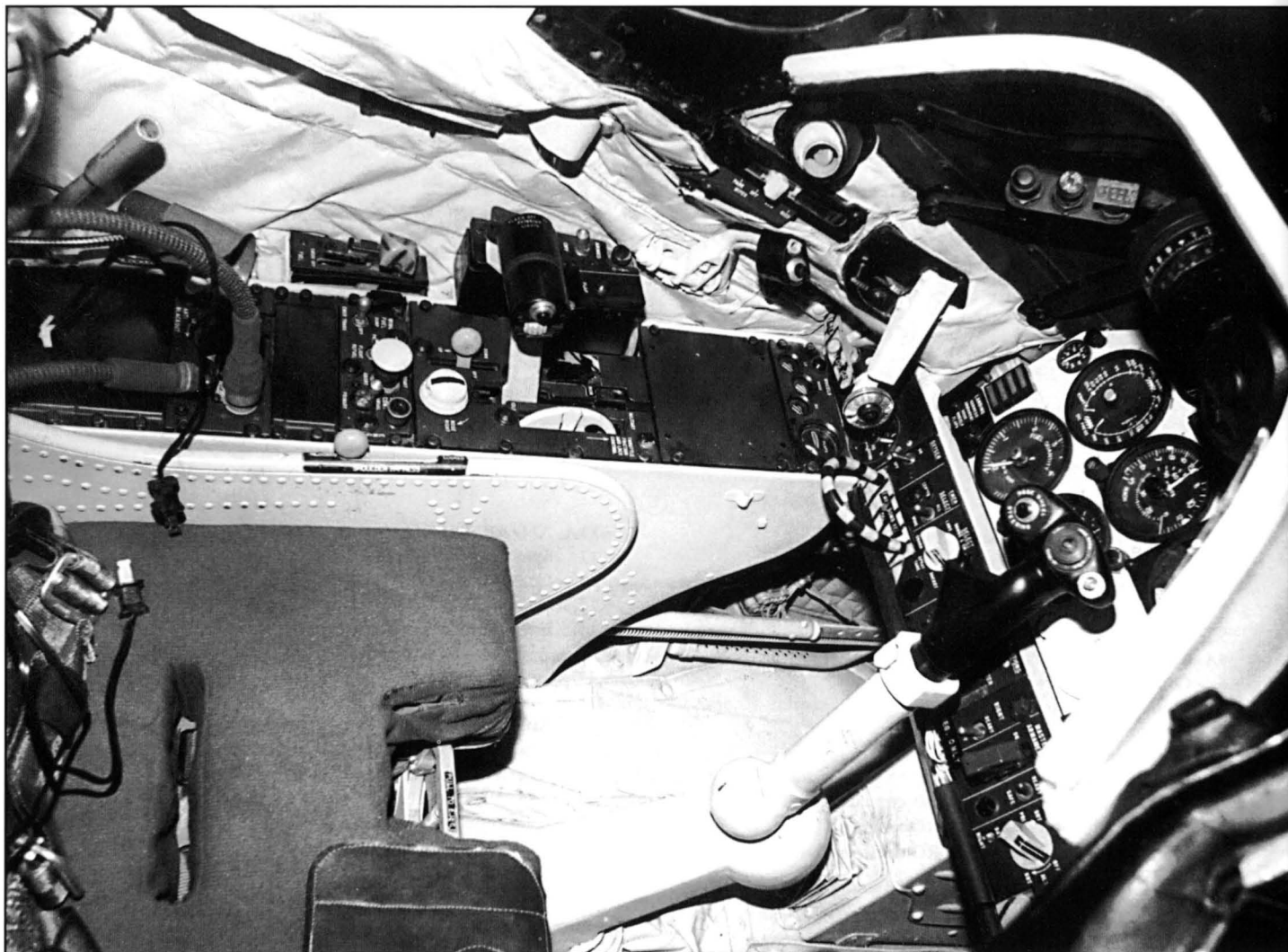
⁽¹⁾ A4D-1 Airplanes incorporating ASC 189.


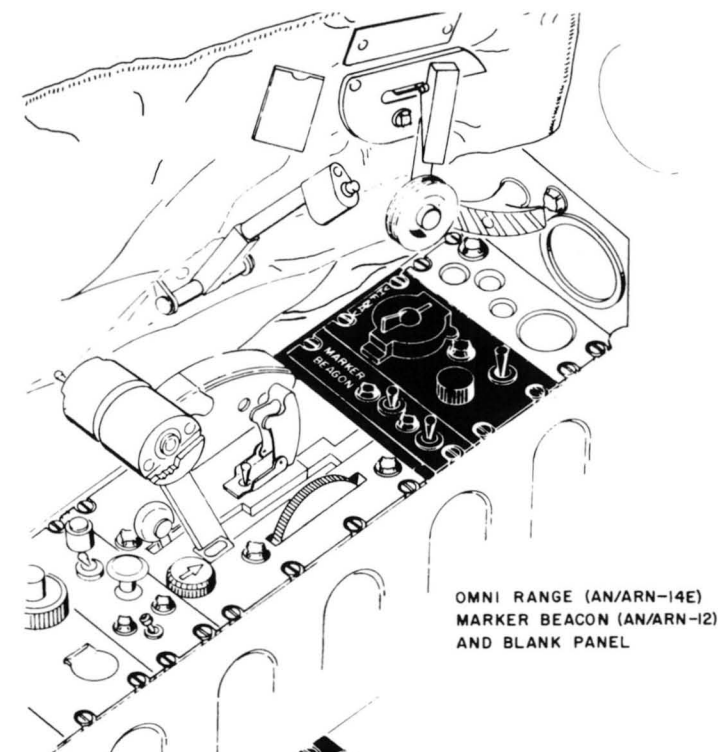
- | | |
|---|--|
| 1. Cabin pressure altimeter | 11A. AN/ARN-21 NAV control panel |
| 2. Emergency generator release handle | 12. Spare lamps receptacle |
| 3. Arresting hook control | 13. Compass controller panel |
| 4. Standby compass correction card | 14. Compass heading synchro. meter |
| 5. Deleted | 15. Exterior lights control panel |
| 5A. Canopy jettison handle | 16. Air conditioning control panel |
| 6. Console lights switch | 17. Interior lights control panel |
| 7. Floodlight switch | 18. Instrument lights switch |
| 8. Air conditioning control switch | 18A. Angle of attack and labs timer control panel ⁽¹⁾ |
| 8A. Windshield air switch | 19. AN/ARC-27A UHF radio control panel |
| 9. Taxi light switch | 20. AN/APA-89 SIF control panel |
| 10. SET HEADING FREE GYRO control | 21. AN/APX-6B IFF radar control panel |
| 10A. Cockpit white floodlight switch | 22. Trim position indicator |
| 11. SLAVED GYRO-FREE GYRO selector switch | 23. Cockpit white floodlight switch |

⁽¹⁾ All A4D-1 airplanes BuNo's 137823 and subsequent.



A4D-2 LEFT - HAND PILOT'S CONSOLE AND INSTRUMENT PANEL





OMNI RANGE (AN/ARN-14E)
MARKER BEACON (AN/ARN-12)
AND BLANK PANEL



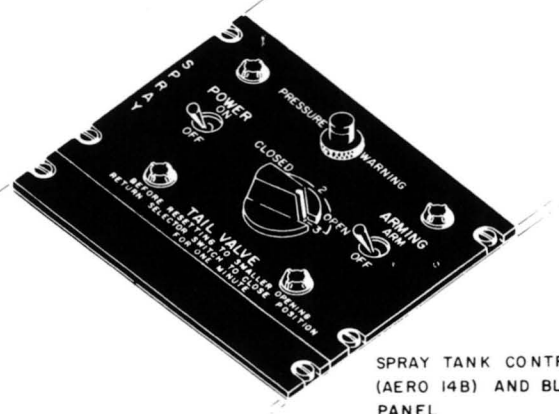
AIR REFUELING CONTROL
(TANKER) AND BLANK
PANEL



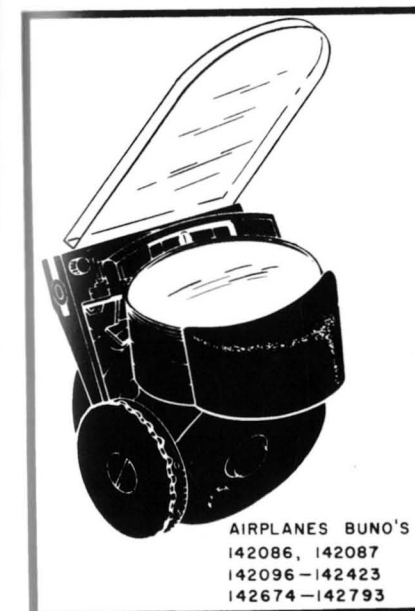
BOMB CONTROL AND MONITOR
(T-208A OR T-249A) AND
LABS CONTROL PANEL



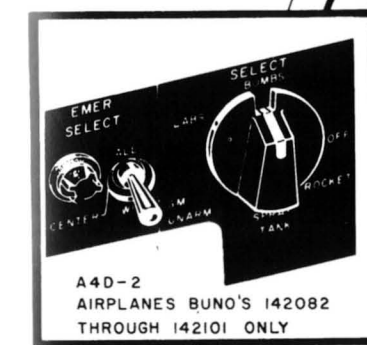
FUSE FUNCTION CONTROL
(C2612/AWW-1) AND
LABS CONTROL PANEL



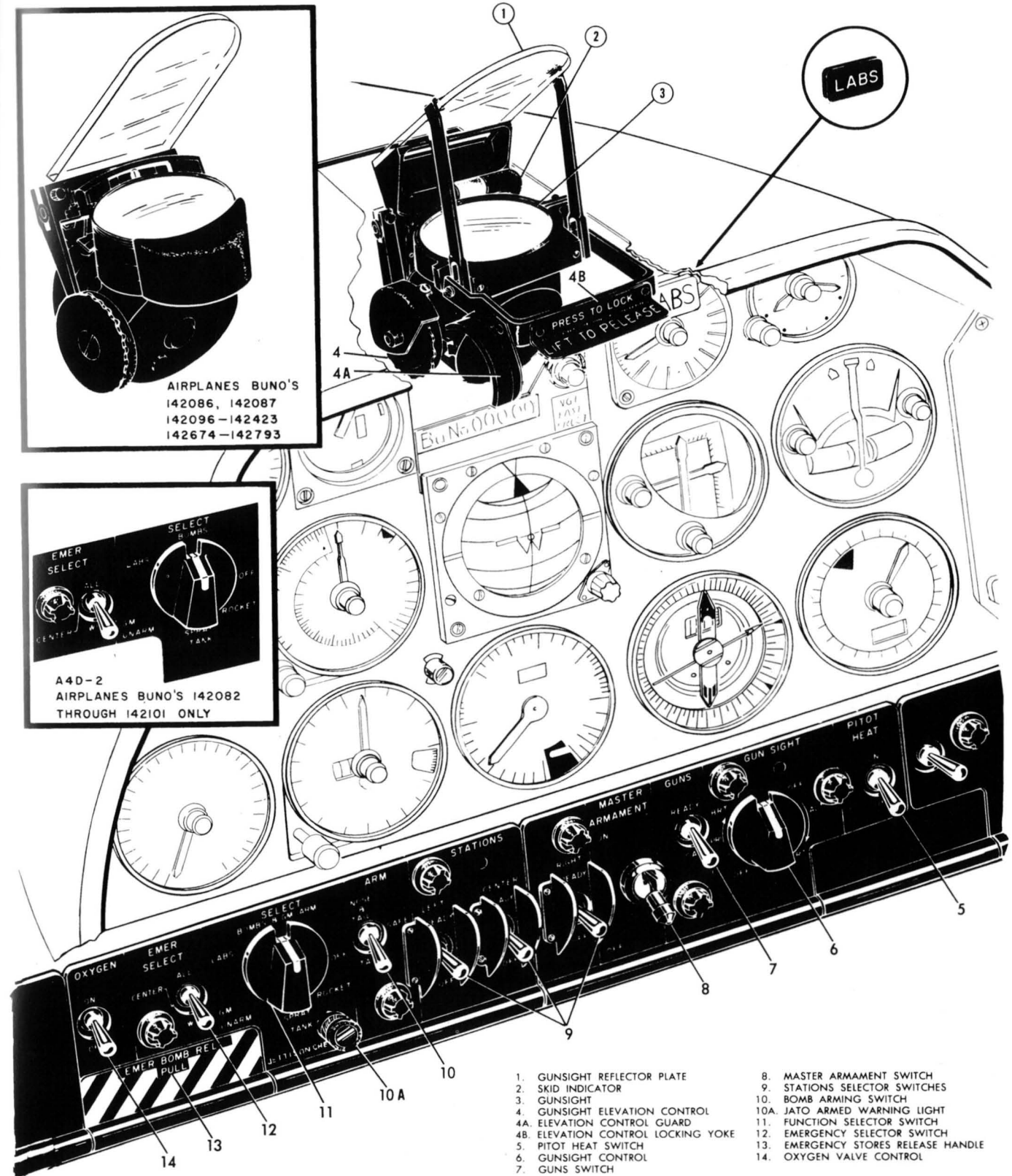
SPRAY TANK CONTROL
(AERO 14B) AND BLANK
PANEL



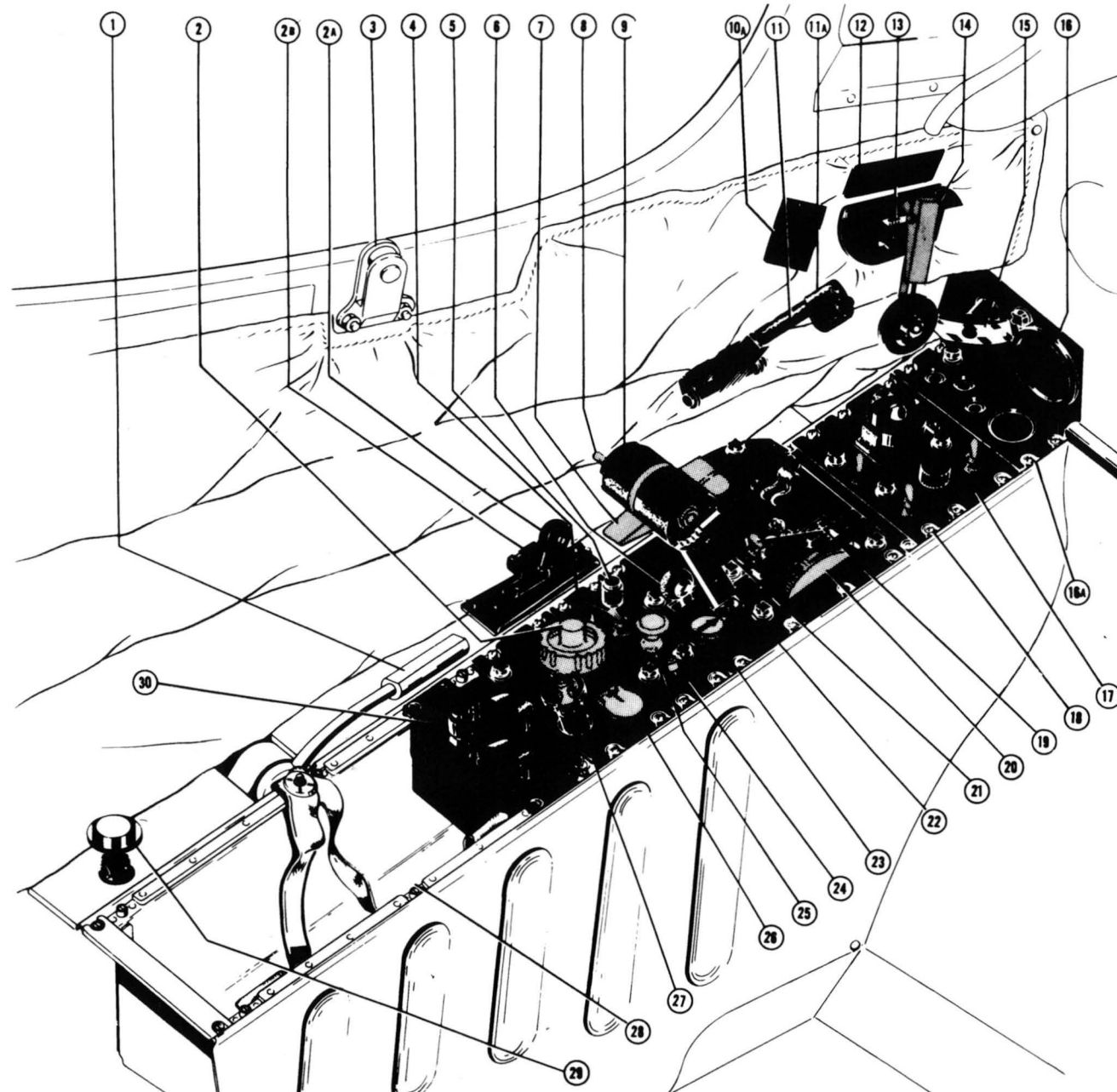
AIRPLANES BUNO'S
142086, 142087
142096-142423
142674-142793



A4D-2
AIRPLANES BUNO'S 142082
THROUGH 142101 ONLY



- | | |
|------------------------------------|-------------------------------------|
| 1. GUNSIGHT REFLECTOR PLATE | 8. MASTER ARMAMENT SWITCH |
| 2. SKID INDICATOR | 9. STATIONS SELECTOR SWITCHES |
| 3. GUNSIGHT | 10. BOMB ARMING SWITCH |
| 4. GUNSIGHT ELEVATION CONTROL | 10A. JATO ARMED WARNING LIGHT |
| 4A. ELEVATION CONTROL GUARD | 11. FUNCTION SELECTOR SWITCH |
| 4B. ELEVATION CONTROL LOCKING YOKE | 12. EMERGENCY SELECTOR SWITCH |
| 5. PITOT HEAT SWITCH | 13. EMERGENCY STORES RELEASE HANDLE |
| 6. GUNSIGHT CONTROL | 14. OXYGEN VALVE CONTROL |
| 7. GUNS SWITCH | |



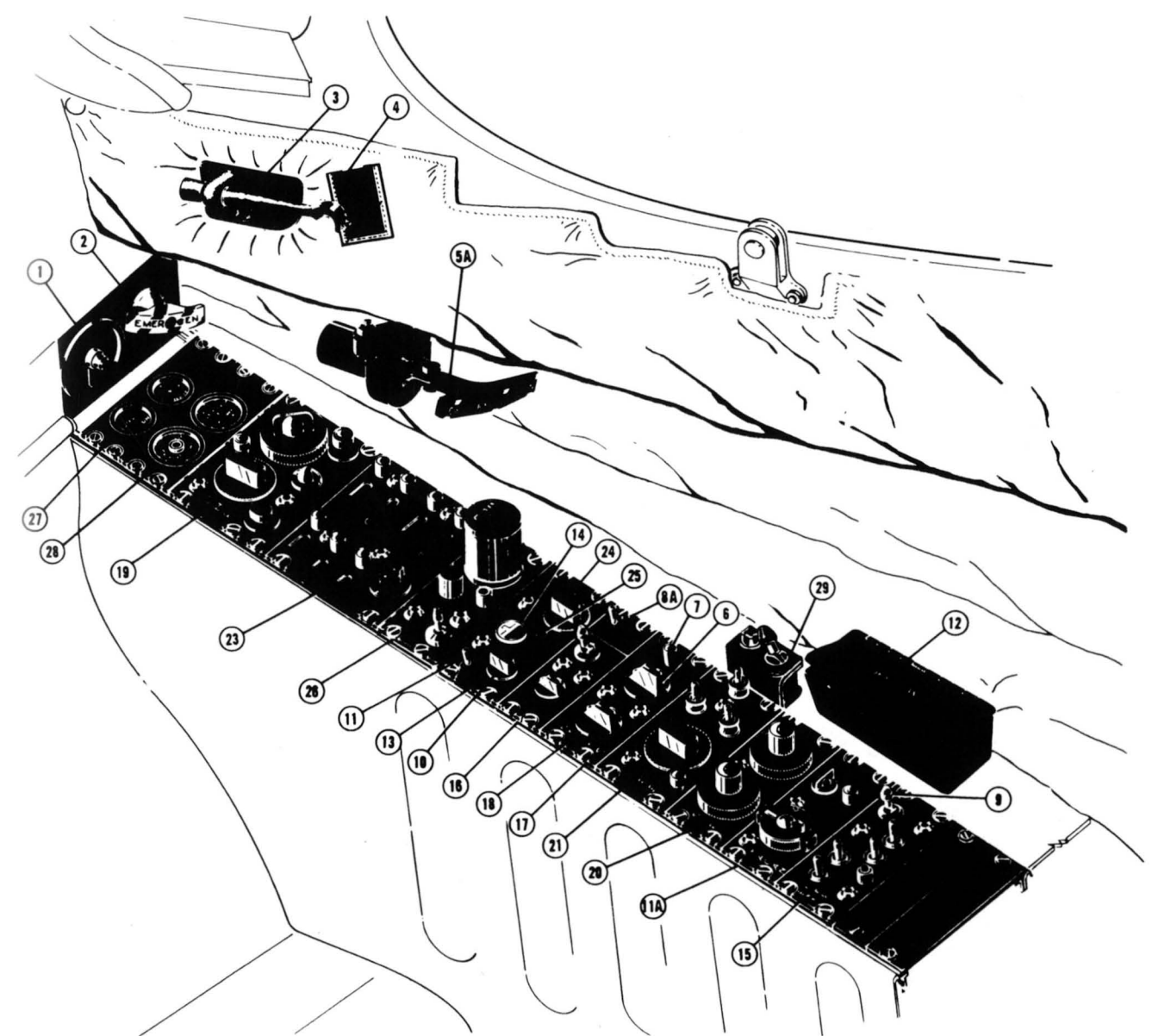
1. Canopy control
2. Anti-blackout control valve
- 2A. Manual fuel valve control
- 2B. Manual fuel shutoff safety lock
3. Canopy latch roller
4. External drop tanks pressurizing switch
5. Manual fuel control system warning light
6. Horizontal stabilizer manual override control
7. Wing flaps control
8. Exterior lights master switch
9. Throttle

10. Deleted
- 10A. Standby compass correction card.⁽¹⁾
11. Catapult handgrip
- 11A. JATO firing button⁽²⁾
12. Airspeed correction card
13. Landing gear retraction release switch
14. Landing gear control
15. Emergency landing gear release handle
16. Oxygen system quantity gage
- 16A. Wheels and flaps position indicators
17. AN/ARN-14E omni-range radio control panel

18. AN/ARN-12 marker beacon receiver control panel
19. Air starting ignition switch
20. Throttle friction wheel
21. Radio microphone switch
22. Speedbrakes switch
23. Rudder trim switch
24. Fuel control system selector switch
25. Starter switch
26. Oxygen and radio receptacle
27. Anti-blackout suit hose connection
28. Map case
29. Emergency speedbrake control
30. JATO control panel⁽²⁾

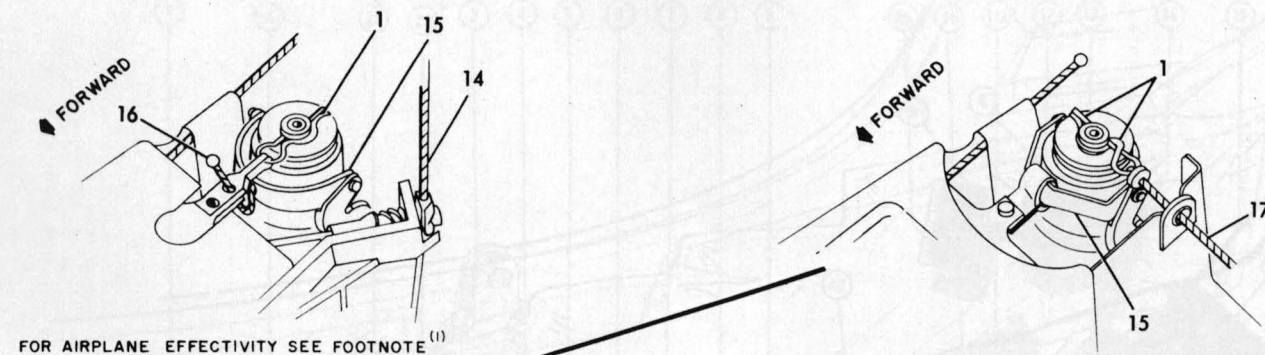
⁽¹⁾ A4D-2 Airplanes 144868 and subs.

⁽²⁾ A4D-2 Airplanes incorporating ASC 172.



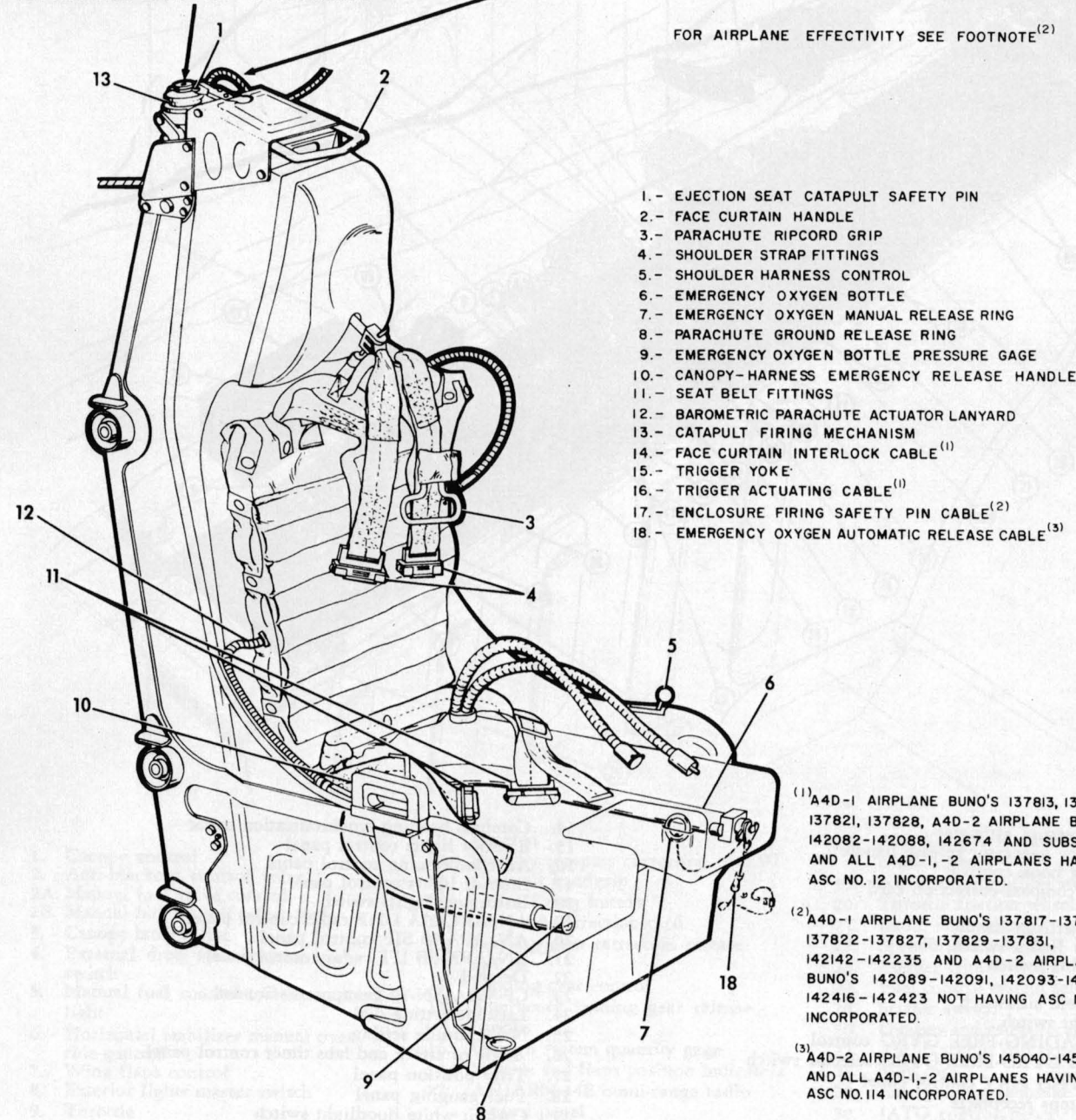
1. Cabin pressure altimeter
2. Emergency generator release handle
3. Arresting hook control
4. Standby compass correction card
5. Deleted
- 5A. Canopy jettison handle
6. Consoles lights switch
7. Floodlights switch
8. Deleted
- 8A. Windshield air switch
9. Taxi light switch
10. SET HEADING-FREE GYRO control
11. SLAVED GYRO-FREE GYRO selector switch
- 11A. AN/ARN-21 NAV control panel
12. Spare lamps receptacle
13. Compass controller panel

14. Compass heading synchronization meter
15. Exterior lights control panel
16. Air conditioning control panel
17. Interior lights control panel
18. Instrument lights switch
19. AN/ARC-27A UHF radio control panel
20. AN/APA-89 SIF control panel
21. AN/APX-6B IFF radar control panel
22. Deleted
23. CP-368/ASN-19 Computer—Control
24. Latitude setting dial
25. N-S Latitude setting
26. Angle of attack and labs timer control panel
27. Trim position panel
28. Fuel gauging panel
29. Cockpit white floodlight switch



FOR AIRPLANE EFFECTIVITY SEE FOOTNOTE (1)

FOR AIRPLANE EFFECTIVITY SEE FOOTNOTE (2)



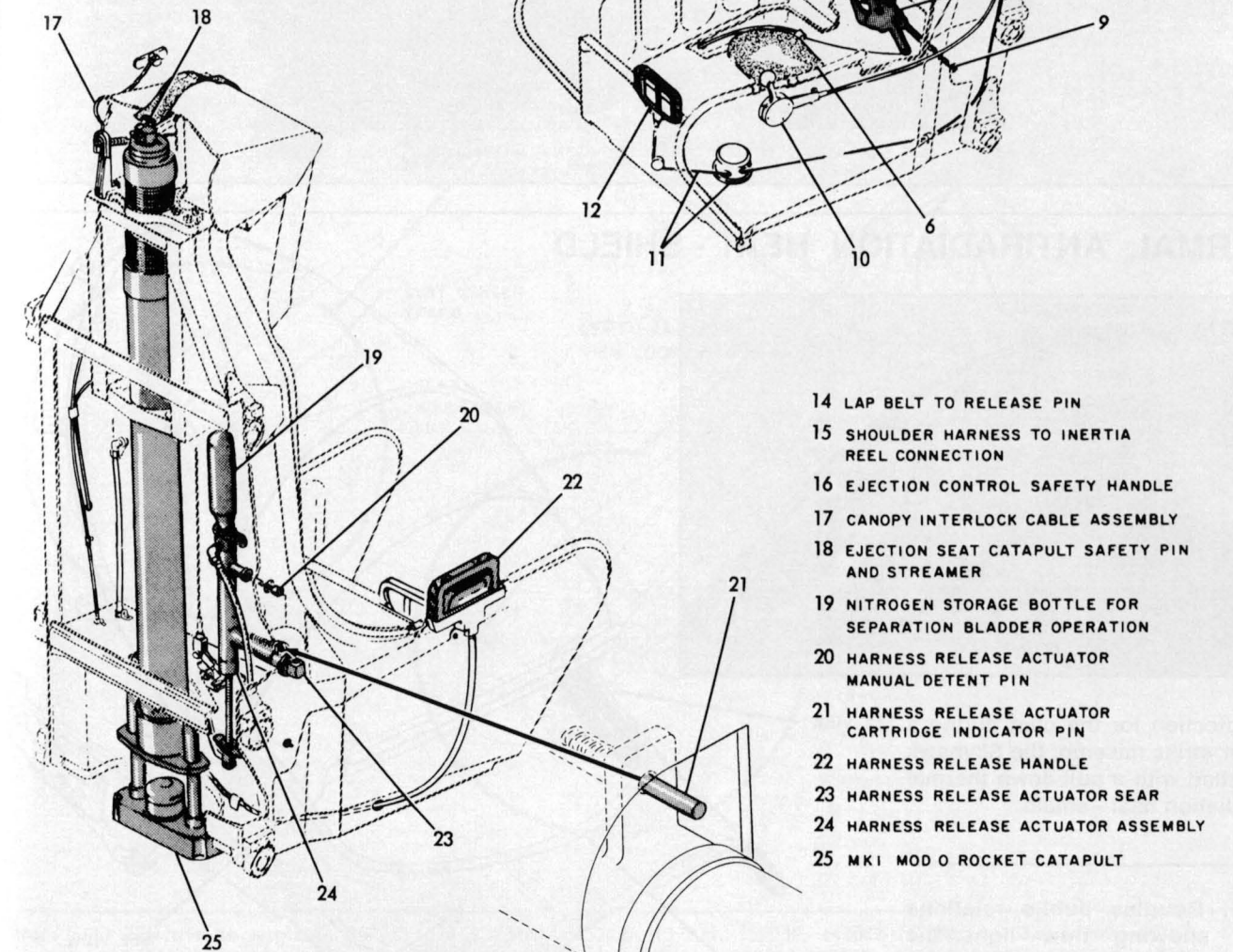
- 1.- EJECTION SEAT CATAPULT SAFETY PIN
- 2.- FACE CURTAIN HANDLE
- 3.- PARACHUTE RIPCORD GRIP
- 4.- SHOULDER STRAP FITTINGS
- 5.- SHOULDER HARNESS CONTROL
- 6.- EMERGENCY OXYGEN BOTTLE
- 7.- EMERGENCY OXYGEN MANUAL RELEASE RING
- 8.- PARACHUTE GROUND RELEASE RING
- 9.- EMERGENCY OXYGEN BOTTLE PRESSURE GAGE
- 10.- CANOPY-HARNESS EMERGENCY RELEASE HANDLE
- 11.- SEAT BELT FITTINGS
- 12.- BAROMETRIC PARACHUTE ACTUATOR LANYARD
- 13.- CATAPULT FIRING MECHANISM
- 14.- FACE CURTAIN INTERLOCK CABLE (1)
- 15.- TRIGGER YOKE
- 16.- TRIGGER ACTUATING CABLE (1)
- 17.- ENCLOSURE FIRING SAFETY PIN CABLE (2)
- 18.- EMERGENCY OXYGEN AUTOMATIC RELEASE CABLE (3)

(1) A4D-1 AIRPLANE BUNO'S 137813, 137814, 137821, 137828, A4D-2 AIRPLANE BUNO'S 142082-142088, 142674 AND SUBSEQUENT AND ALL A4D-1,-2 AIRPLANES HAVING ASC NO. 12 INCORPORATED.

(2) A4D-1 AIRPLANE BUNO'S 137817-137820, 137822-137827, 137829-137831, 142142-142235 AND A4D-2 AIRPLANE BUNO'S 142089-142091, 142093-142141, 142416-142423 NOT HAVING ASC NO. 12 INCORPORATED.

(3) A4D-2 AIRPLANE BUNO'S 145040-145061 AND ALL A4D-1,-2 AIRPLANES HAVING ASC NO. 114 INCORPORATED.

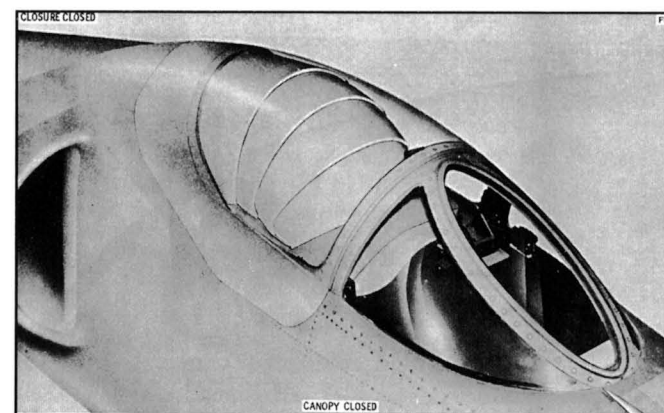
- 1 FACE CURTAIN HANDLE
- 2 FACE CURTAIN FIRING CABLE
- 3 CATAPULT FIRING CABLE
- 3A CATAPULT FIRING SEAR LINKAGE
- 4 CANOPY INTERLOCK PIN ASSEMBLY
- 5 EJECTION CONTROL PULLEY MECHANISM
- 6 SEAT SEPARATION BLADDERS
- 7 SHOULDER HARNESS DISCONNECT CABLE
- 8 LAP BELT AND SHOULDER HARNESS RELEASE BELLCRANK ASSEMBLY
- 9 LAP BELT RELEASE PINS
- 10 SHOULDER HARNESS CONTROL HANDLE
- 11 SECONDARY EJECTION CONTROL CABLE AND DISCONNECT PULLEY
- 12 SECONDARY EJECTION CONTROL HANDLE
- 13 ARMING LANYARD TO PARACHUTE OPENER



- 14 LAP BELT TO RELEASE PIN
- 15 SHOULDER HARNESS TO INERTIA REEL CONNECTION
- 16 EJECTION CONTROL SAFETY HANDLE
- 17 CANOPY INTERLOCK CABLE ASSEMBLY
- 18 EJECTION SEAT CATAPULT SAFETY PIN AND STREAMER
- 19 NITROGEN STORAGE BOTTLE FOR SEPARATION BLADDER OPERATION
- 20 HARNESS RELEASE ACTUATOR MANUAL DETENT PIN
- 21 HARNESS RELEASE ACTUATOR CARTRIDGE INDICATOR PIN
- 22 HARNESS RELEASE HANDLE
- 23 HARNESS RELEASE ACTUATOR SEAR
- 24 HARNESS RELEASE ACTUATOR ASSEMBLY
- 25 MKI MOD O ROCKET CATAPULT

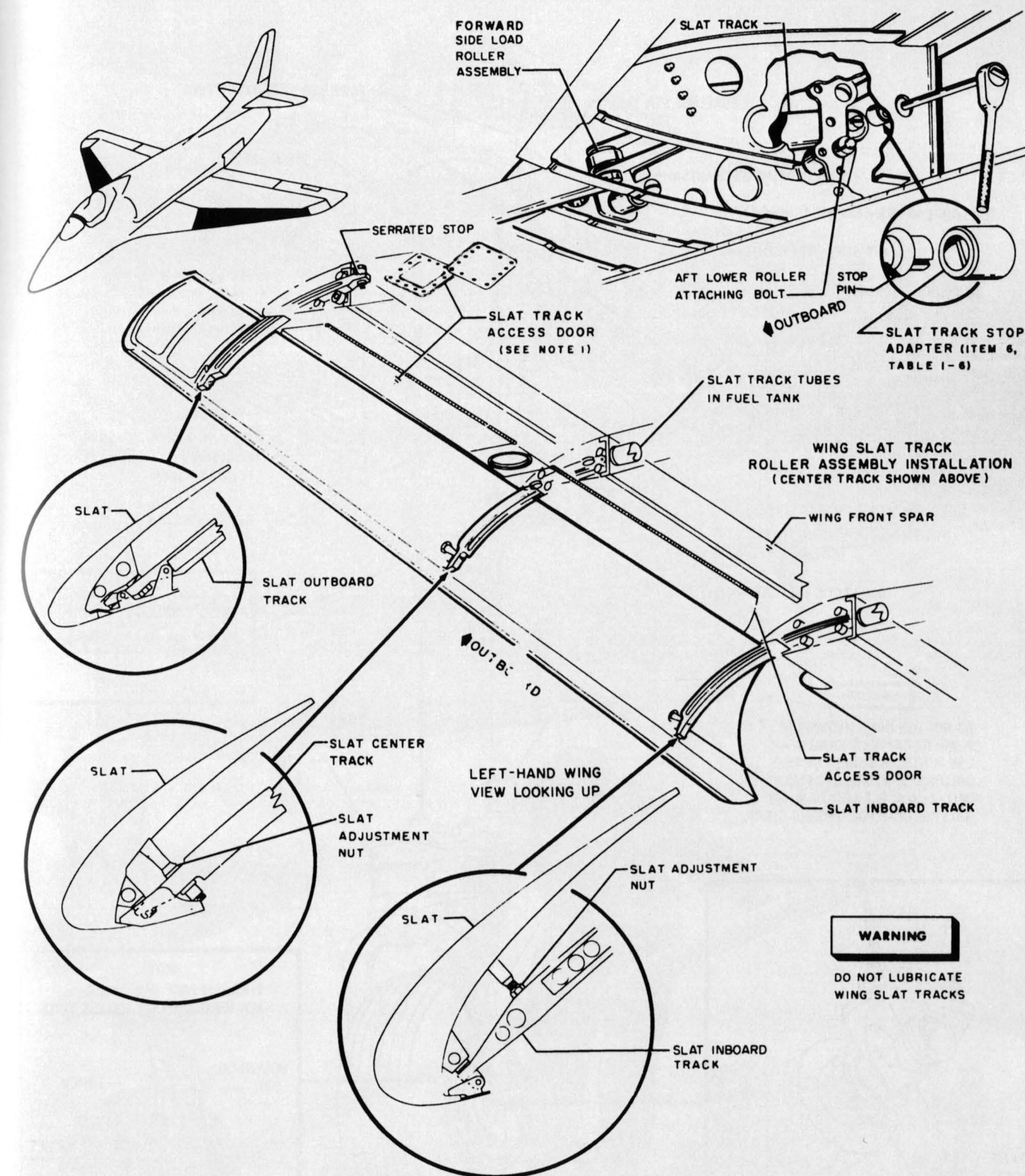
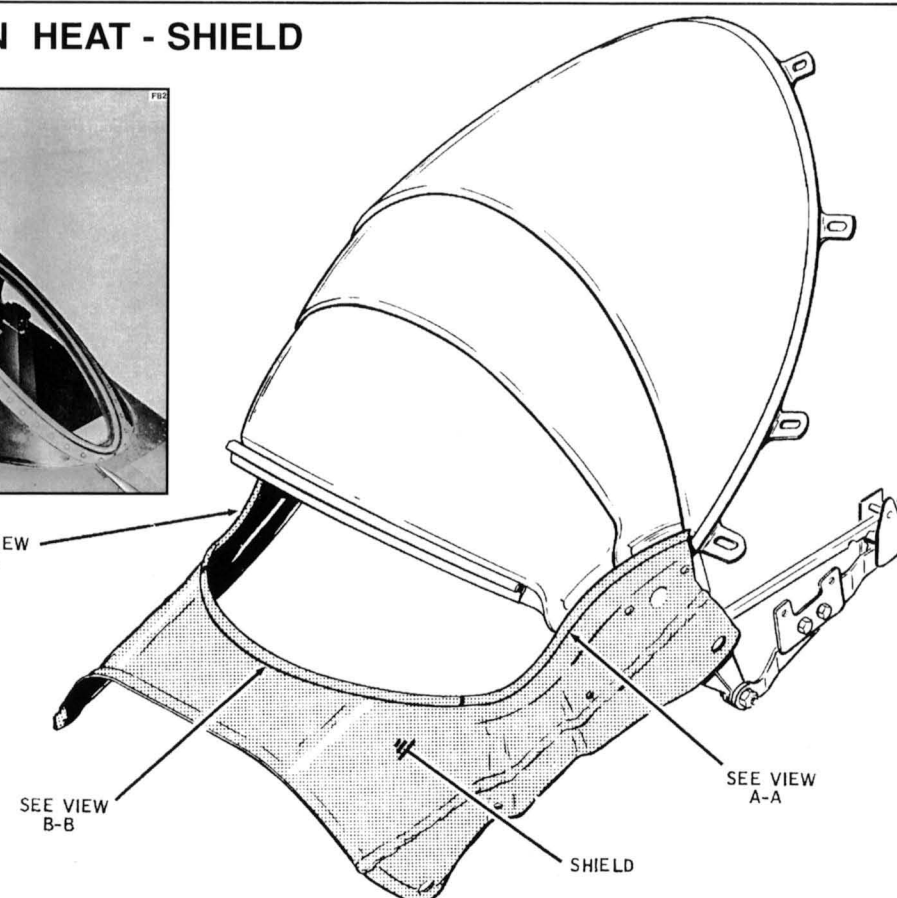


THERMAL ANTIRADIATION HEAT - SHIELD



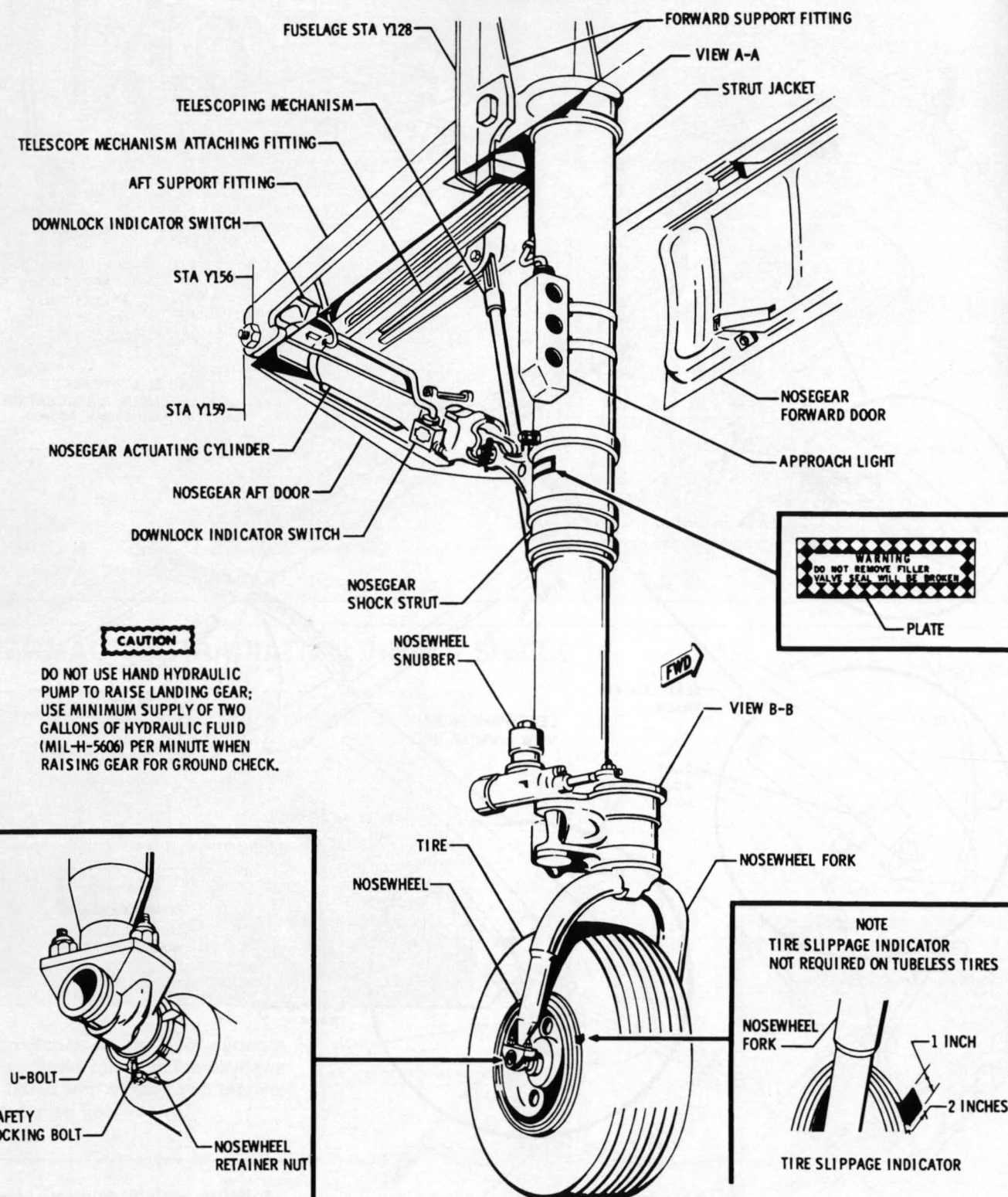
As protection for the pilot during a nuclear strike mission, the Skyhawk was fitted with a pull-down thermal antiradiation heat - shield

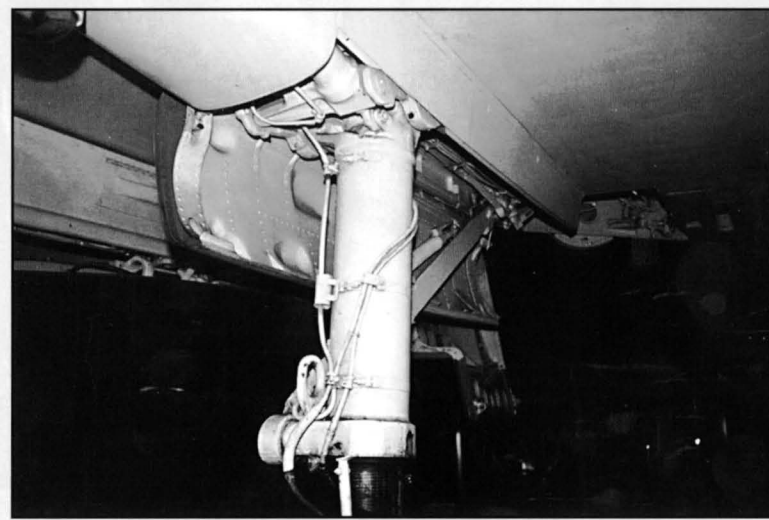
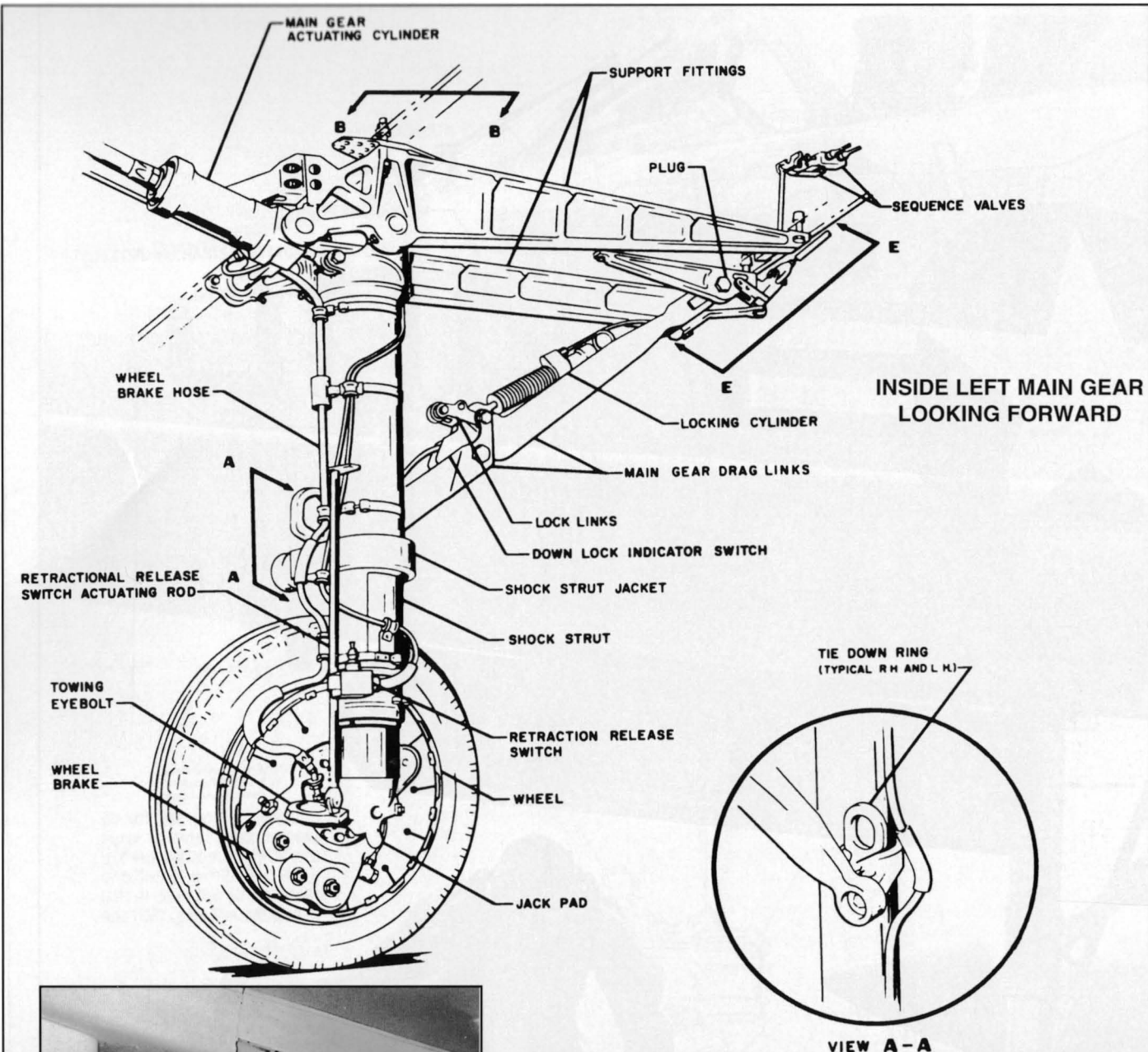
Above, Douglas public relations photo showing how light the Douglas A4A/B ejection seat was in comparison with a standard Navy ejection seat. (Douglas)



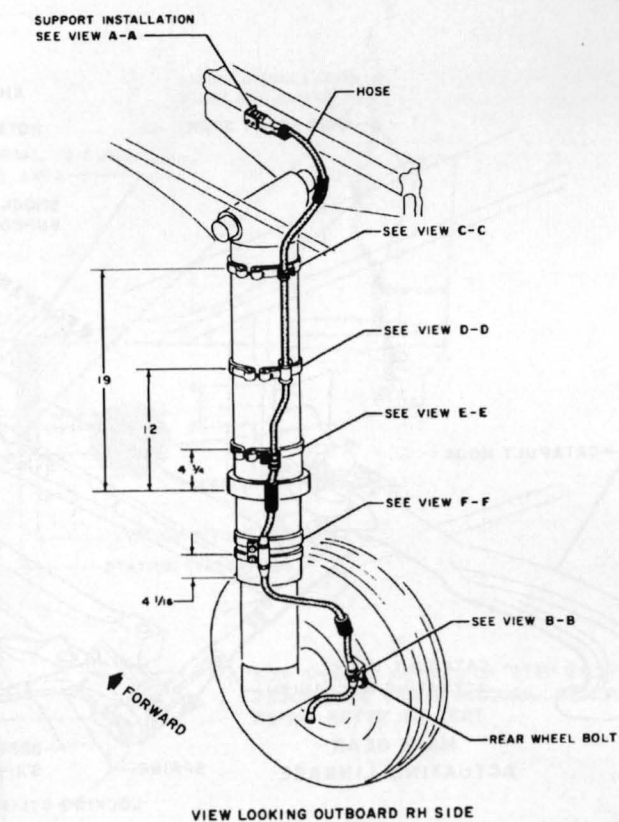
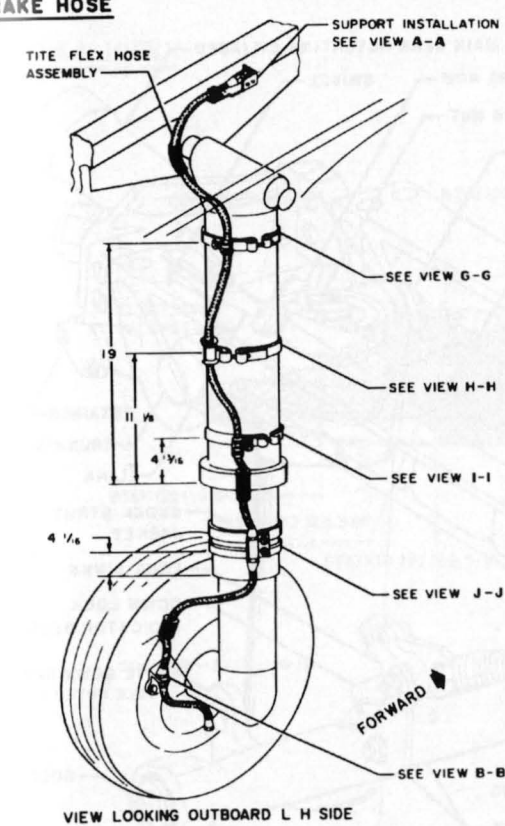
Note (1) Effective on airplanes BuNo. 137813, 137814, 137820, 137821, 139930, 142082-142085, 142088, 142092-142141, 142416-142423, 142674-142953, 144868-145061, and airplanes BuNo. 137815-137819, 137822-137831, 139919-139929, 139931-139970, 142142-142235, 142086, 142087, 142089-142091 reworked per BuWeps A4D/SC No. 100.

Effective all A4D-1, A4D-2 airplanes, except as noted.



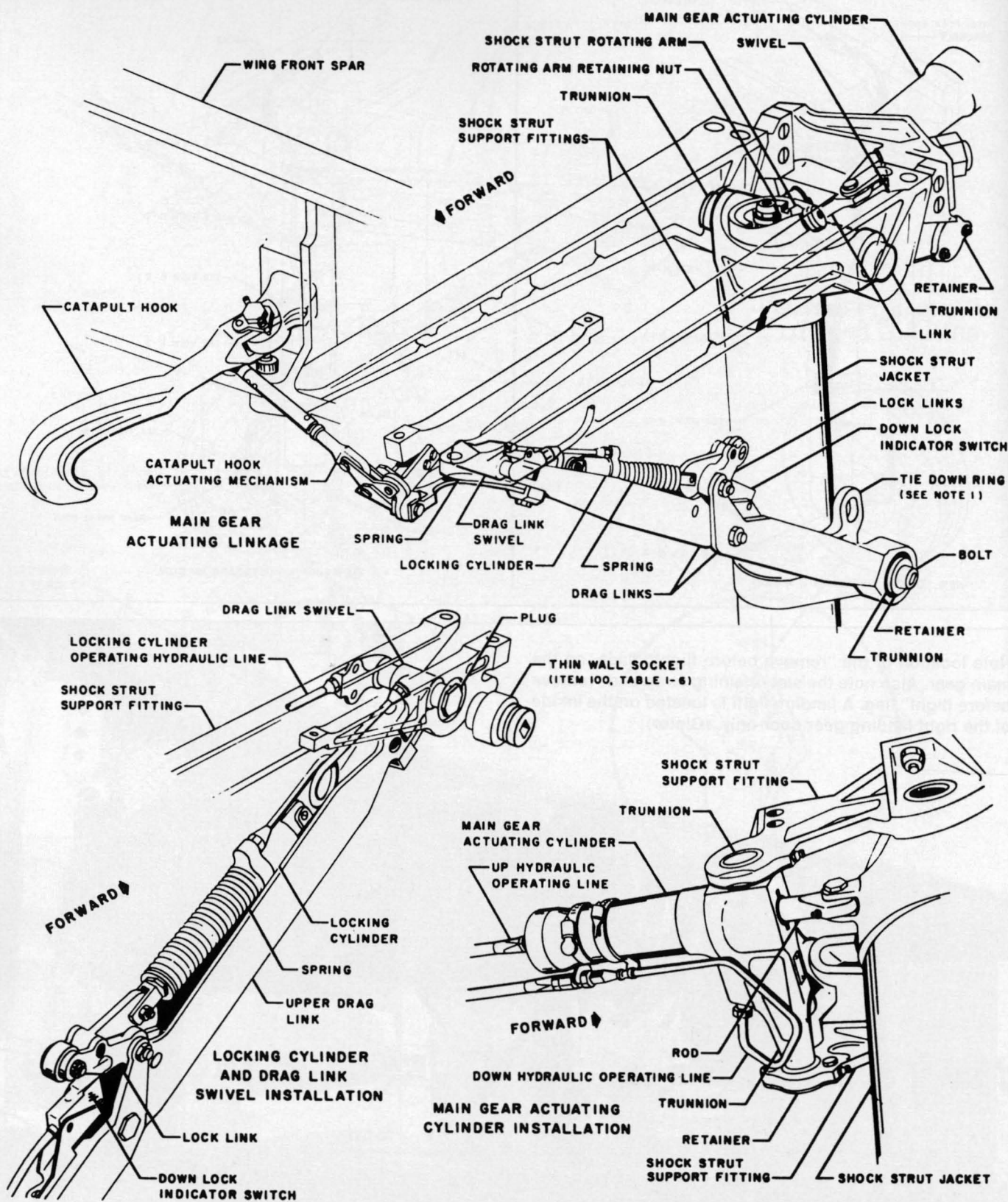


BRAKE HOSE

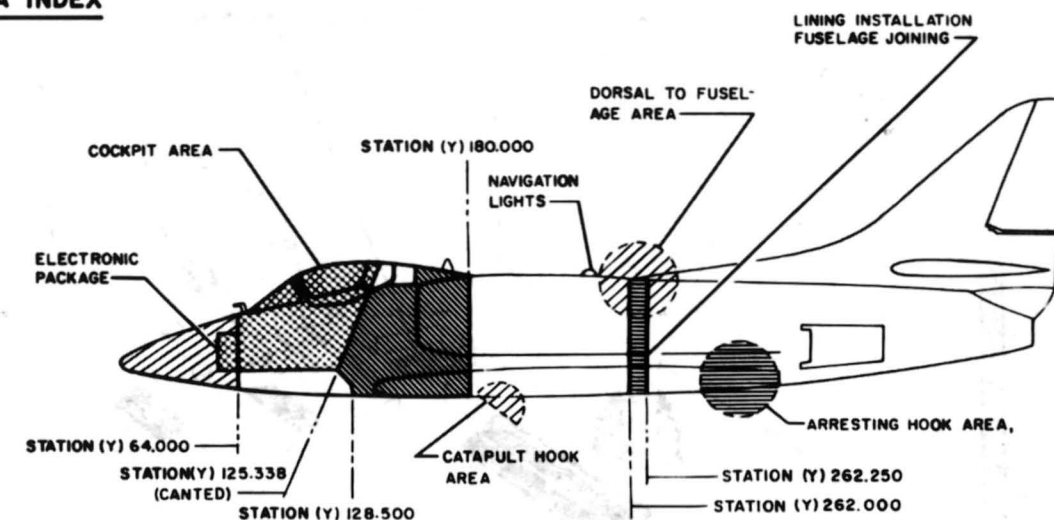


Note location of the "remove before flight" flags, on the main gear. Also note the slat retaining strap and "remove before flight" flag. A landing light is located on the inside of the right landing gear door only. (Ginter)



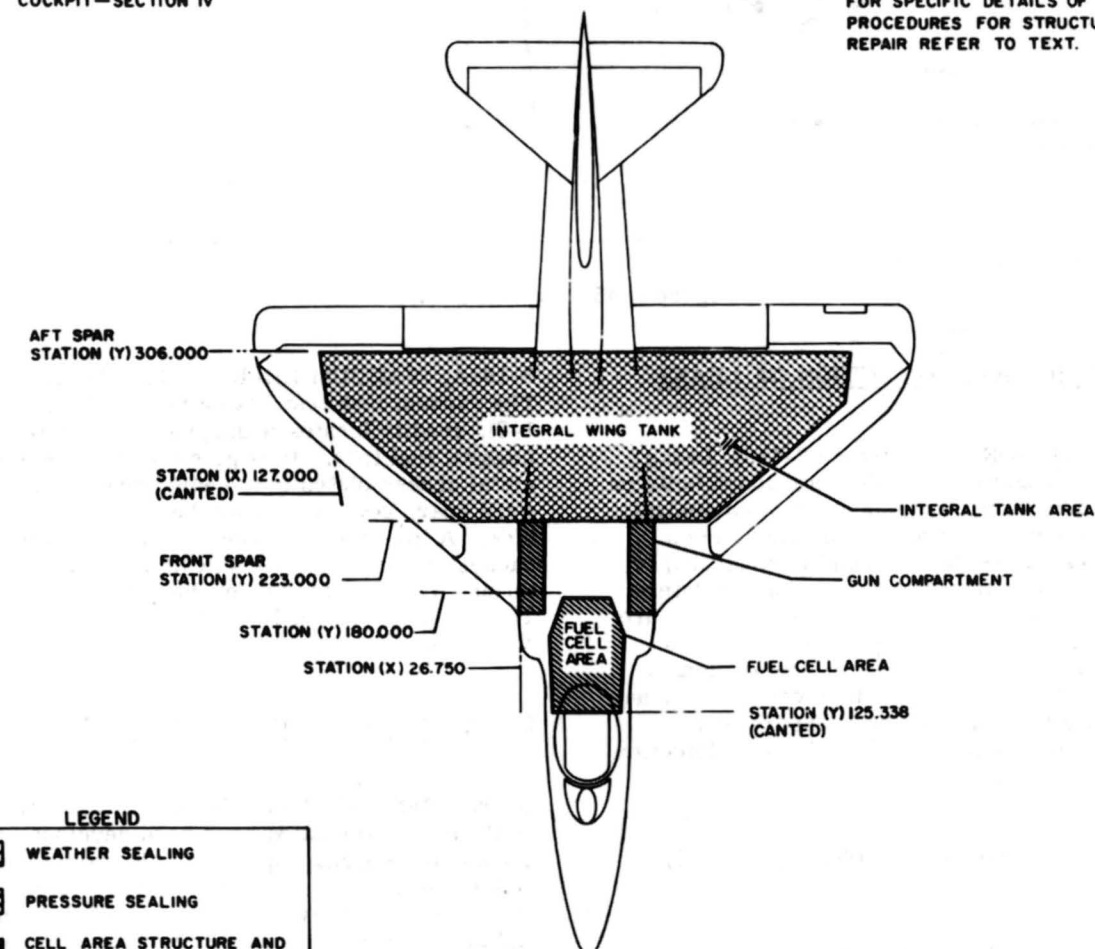


AREA INDEX



COCKPIT—SECTION IV

FOR SPECIFIC DETAILS OF "STEP BY STEP" PROCEDURES FOR STRUCTURAL SEALING REPAIR REFER TO TEXT.

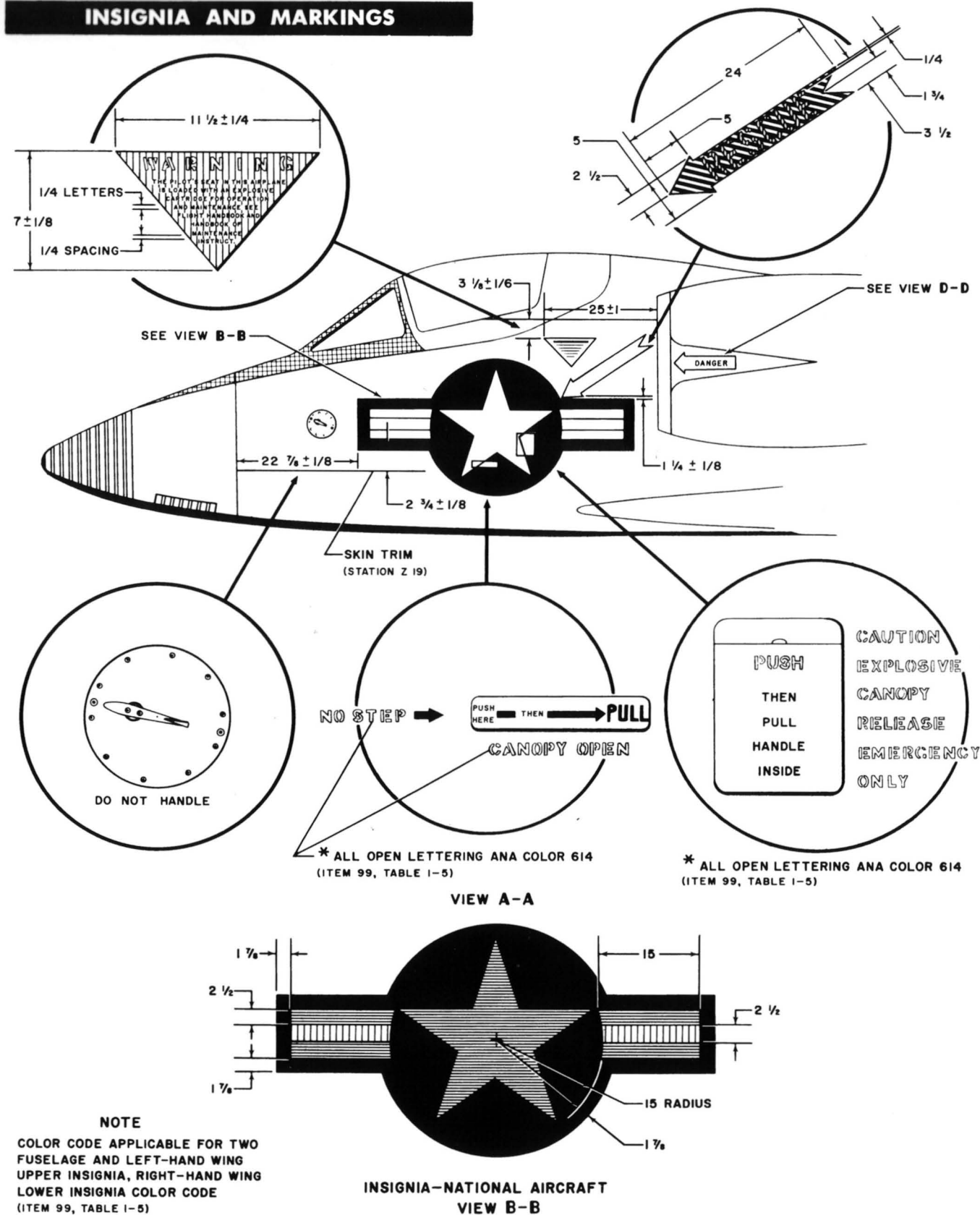


LEGEND

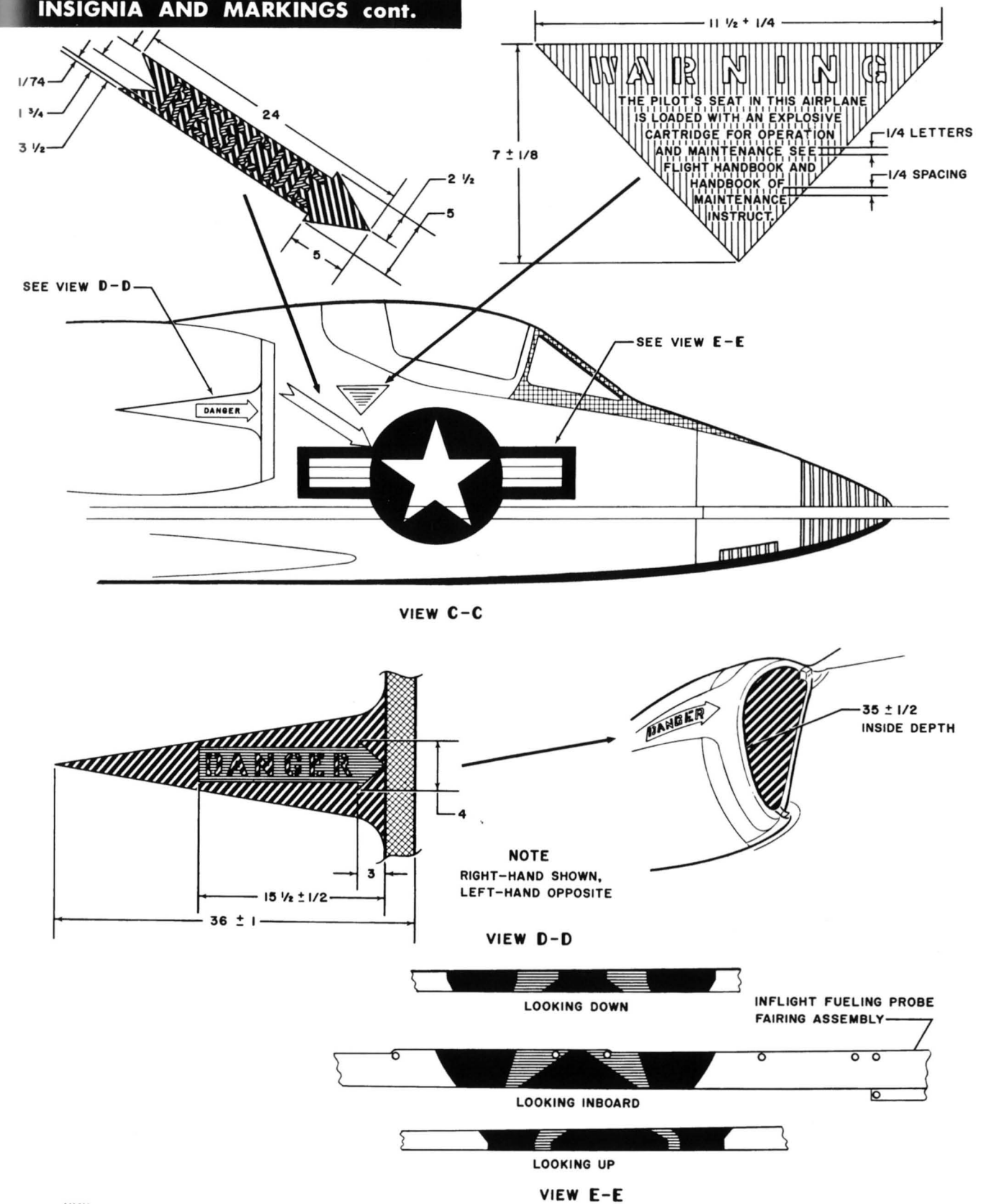
	WEATHER SEALING
	PRESSURE SEALING
	CELL AREA STRUCTURE AND LINING INSTALLATION SEALING
	SAFETY AND CORROSION SEALING

Effective all A4D-1, A4D-2 airplanes.

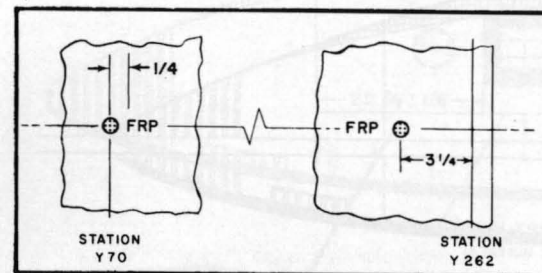
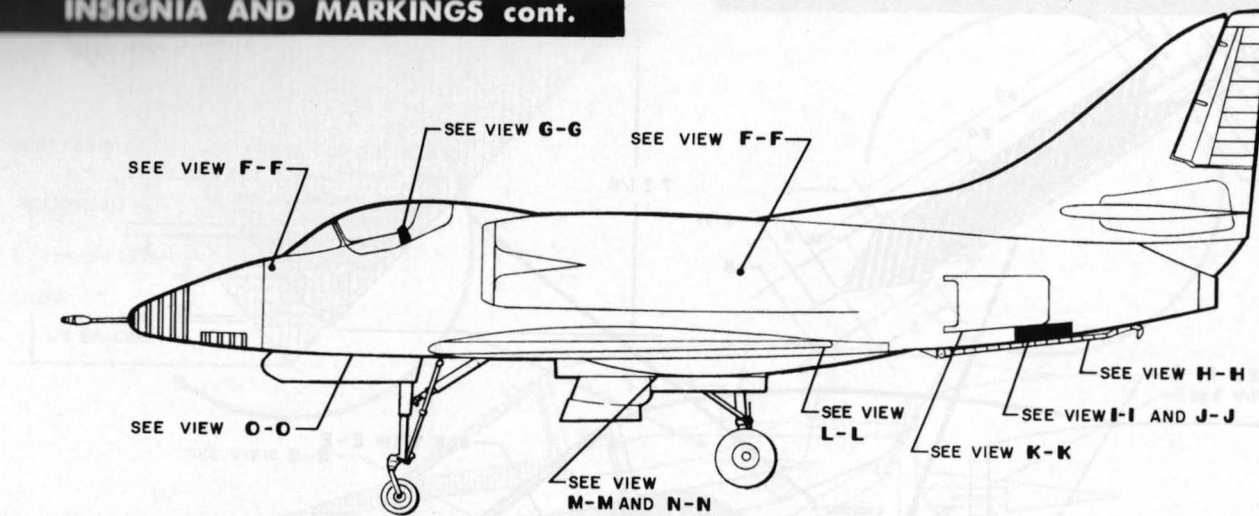
INSIGNIA AND MARKINGS



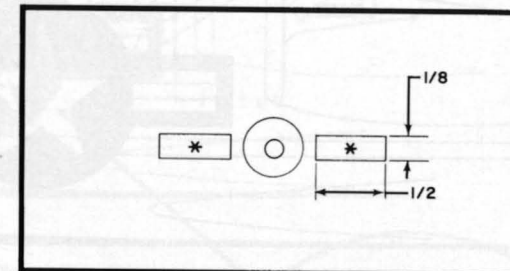
INSIGNIA AND MARKINGS cont.



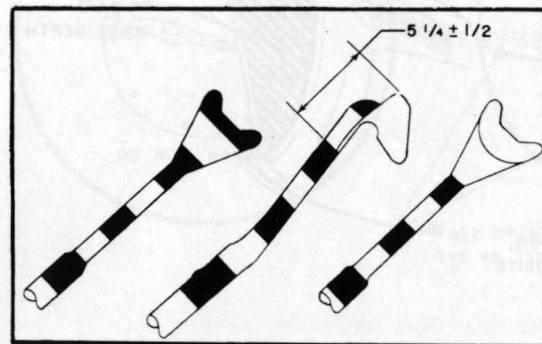
INSIGNIA AND MARKINGS cont.



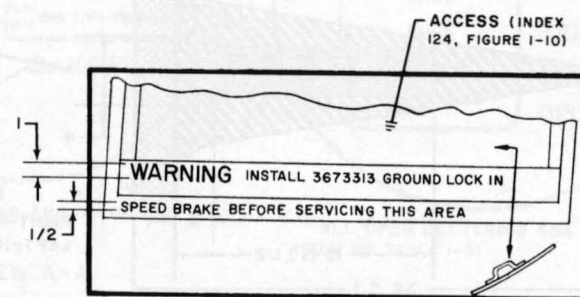
TRANSIT LEVELING POINTS
(LEFT-HAND SHOWN, RIGHT-HAND OPPOSITE)
VIEW F-F



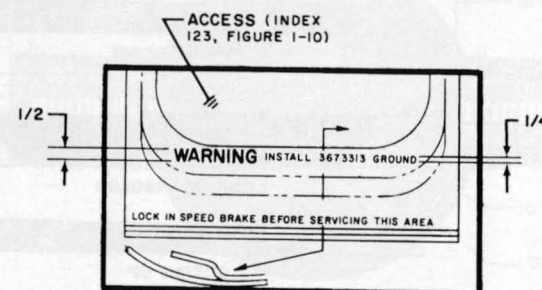
LOOKING DOWN ON CANOPY BUNGEE
NOTE
APPLIES TO AIRPLANES BUNO. 147805-
147849, 148304-148317, 148435-148612
VIEW G-G



VIEW H-H



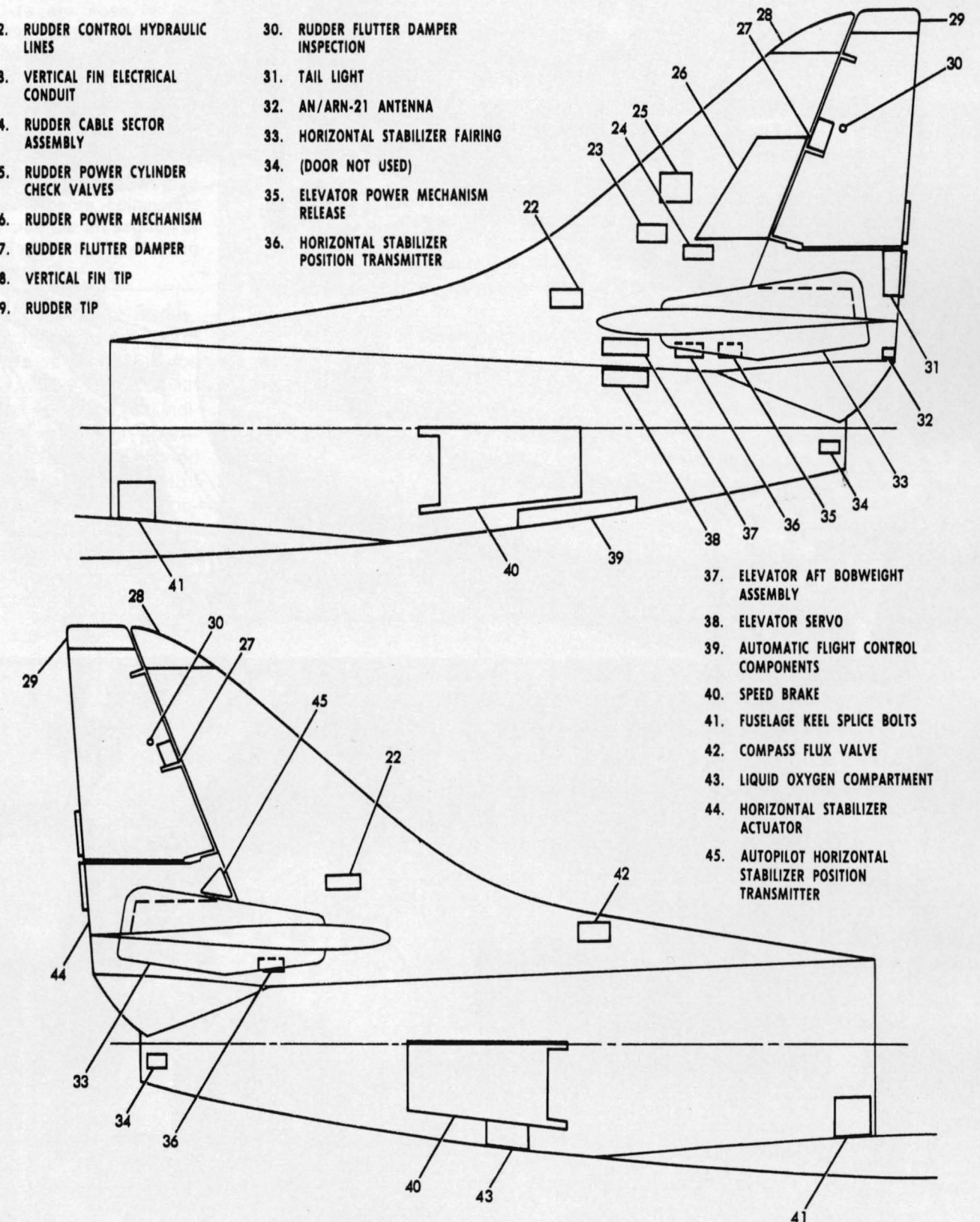
STENCIL INTERIOR AND EXTERIOR
VIEW I-I



STENCIL INTERIOR AND EXTERIOR
VIEW J-J

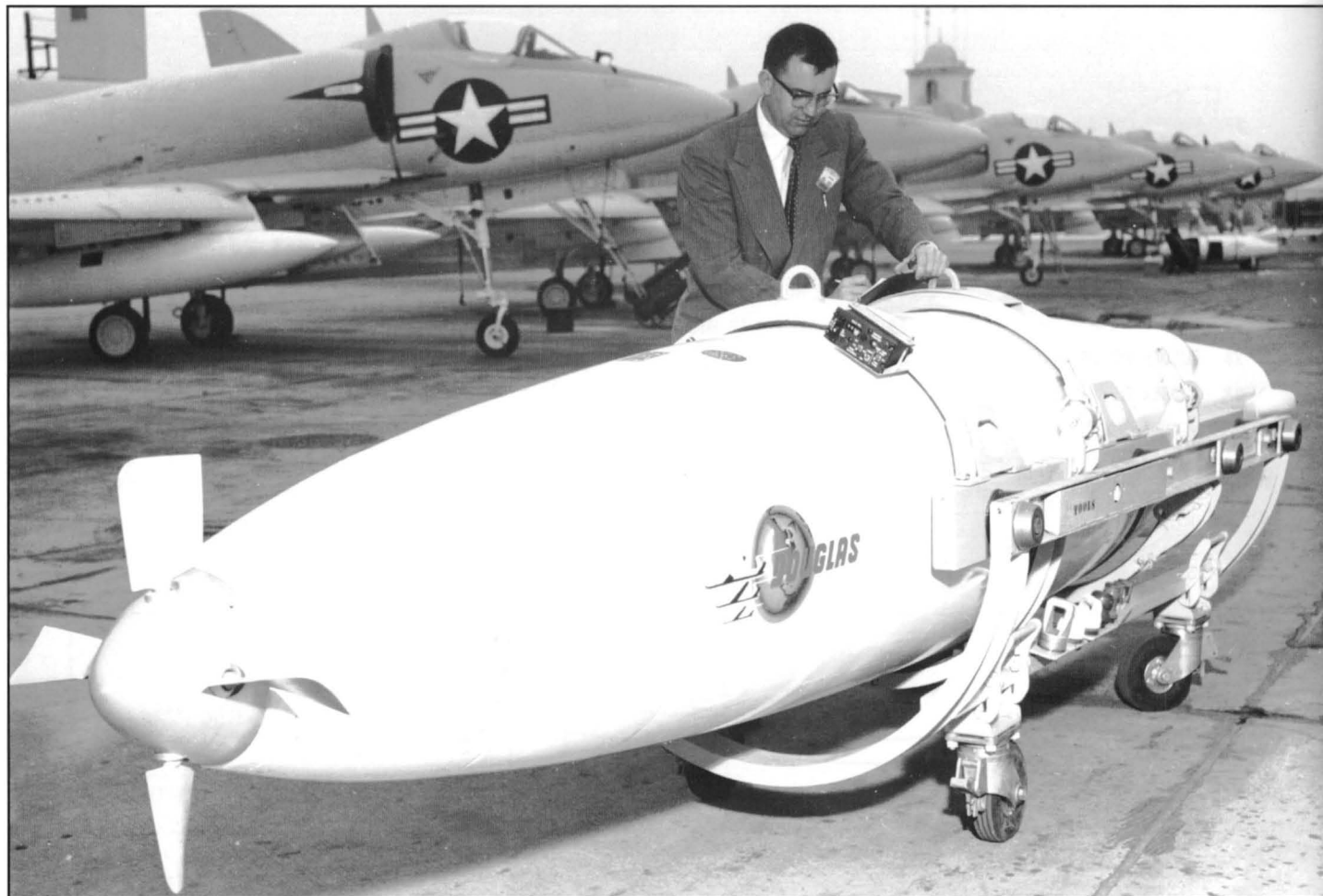
EFFECTIVITY - BUNO.
FACTORY: ALL, EXCEPT AS
NOTED
SERV CHG: NONE

- | | |
|--|--|
| 22. RUDDER CONTROL HYDRAULIC LINES | 30. RUDDER FLUTTER DAMPER INSPECTION |
| 23. VERTICAL FIN ELECTRICAL CONDUIT | 31. TAIL LIGHT |
| 24. RUDDER CABLE SECTOR ASSEMBLY | 32. AN/ARN-21 ANTENNA |
| 25. RUDDER POWER CYLINDER CHECK VALVES | 33. HORIZONTAL STABILIZER FAIRING |
| 26. RUDDER POWER MECHANISM | 34. (DOOR NOT USED) |
| 27. RUDDER FLUTTER DAMPER | 35. ELEVATOR POWER MECHANISM RELEASE |
| 28. VERTICAL FIN TIP | 36. HORIZONTAL STABILIZER POSITION TRANSMITTER |
| 29. RUDDER TIP | |



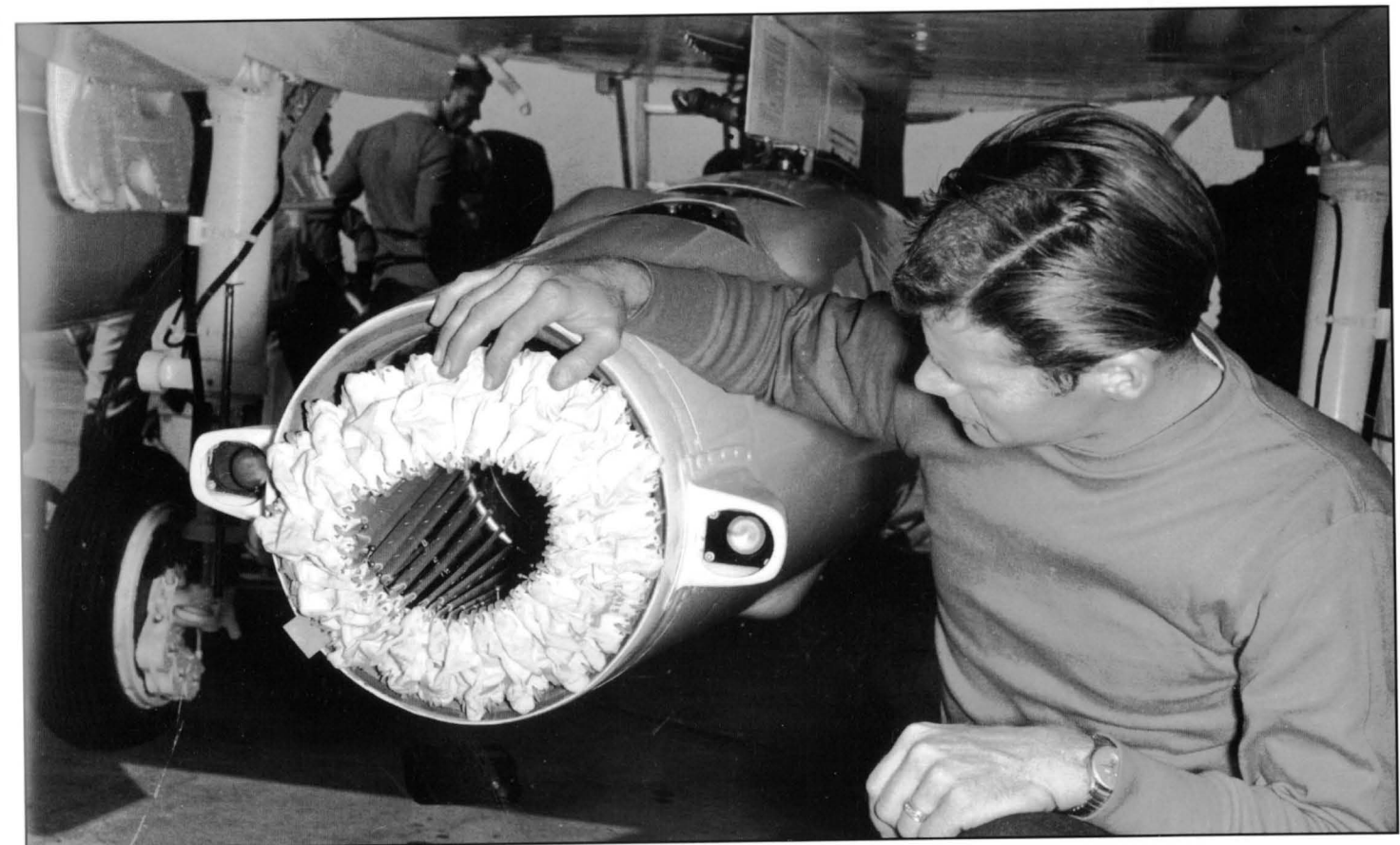
ACCESS AND INSPECTION PROVISIONS

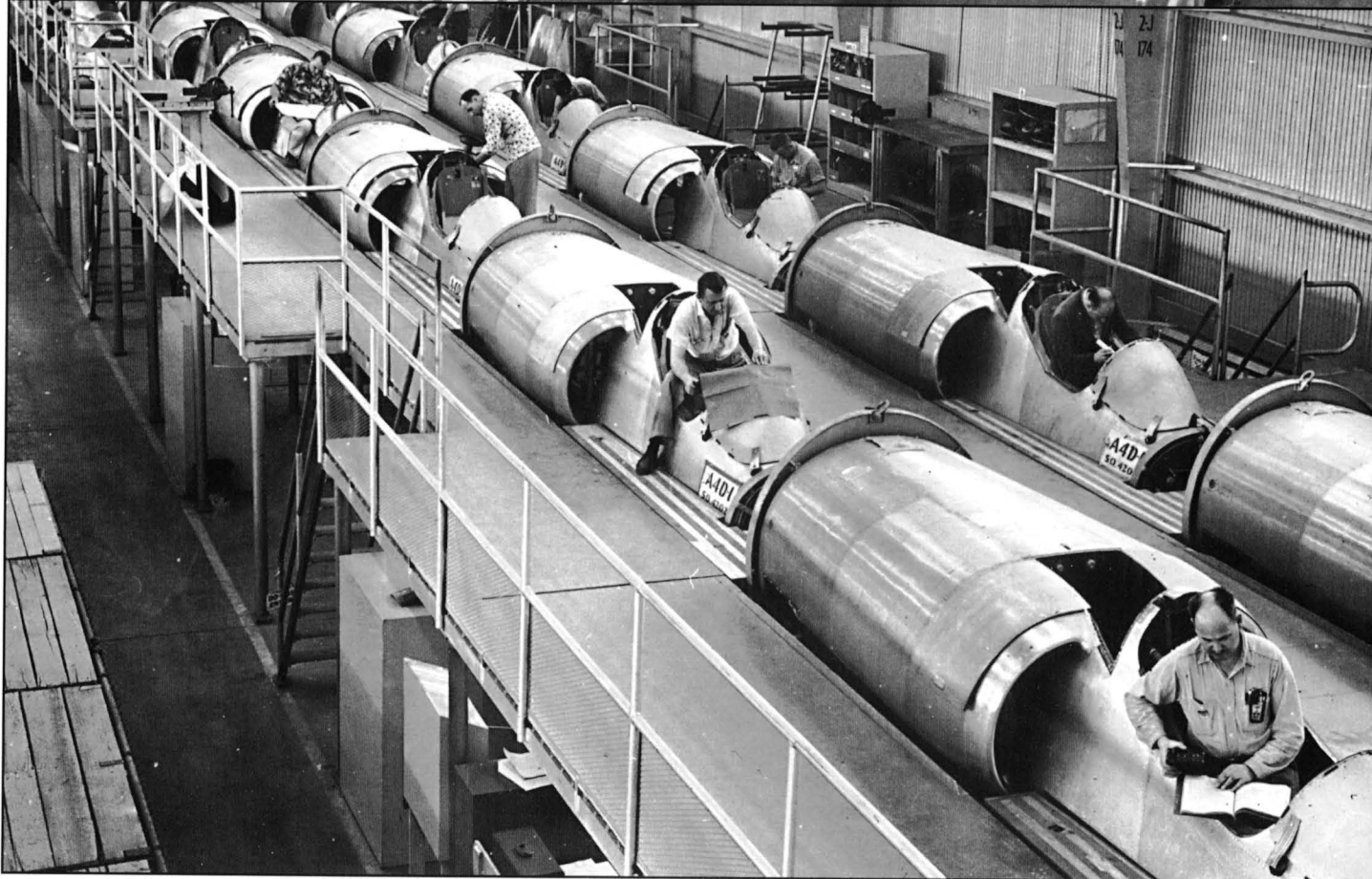
DOUGLAS REFUELING "BUDDY" STORE



At left, Thomas E. Abraham, powerplant engineer at Douglas, El Segundo, CA, developed the self-contained in-flight refueling "Buddy" tank for use on the Skyhawk. Production A4D-1s are seen in the background. (Douglas) Bottom left, Navy pilot inspects the impeller blades on the new "Buddy" tank fitted to an A4D-1 on 30 November 1956. (Douglas) At right, detail view of the fully deployed drogue basket. (Douglas) Below, Douglas mechanic inspects collapsible drogue inside the aft section of the Douglas in-flight refueling store. (Douglas)

The 300-gallon "Buddy" tank had an empty weight of 677 lbs and weighed 2,627 lbs with JP-4 and 2,717 lbs with JP-5. It was equipped with indicator lights for night operations. These were positioned on each side of the aft end of the unit. A small cockpit console provides the tanker pilot with a flowmeter, operating switches and a drogue position indicator.





Above left, spars for the A4D's wings were machined from single pieces of steel in an effort to save weight and increase strength. An endless line of wings travels through the Douglas plant. (Douglas) Below left, A4D-1 forward fuselages move through the plant. The striped areas around the fuselages were removable boards. The elevated platforms allowed work to be done both above and below the fuselage at the same time. (Douglas) Above, the mating of the fuselage and the tail of A4D-1 137813. (Douglas) Below, 137813 undergoes final testing before roll-out. (Douglas)





The A4D-2 was an outgrowth of the Douglas testing program on the early A4D-1s. The most prominent feature was the tadpole (inside-out rudder) borrowed from North American. This rudder eliminated the severe flutter problem that had occasionally plagued the A4D-1

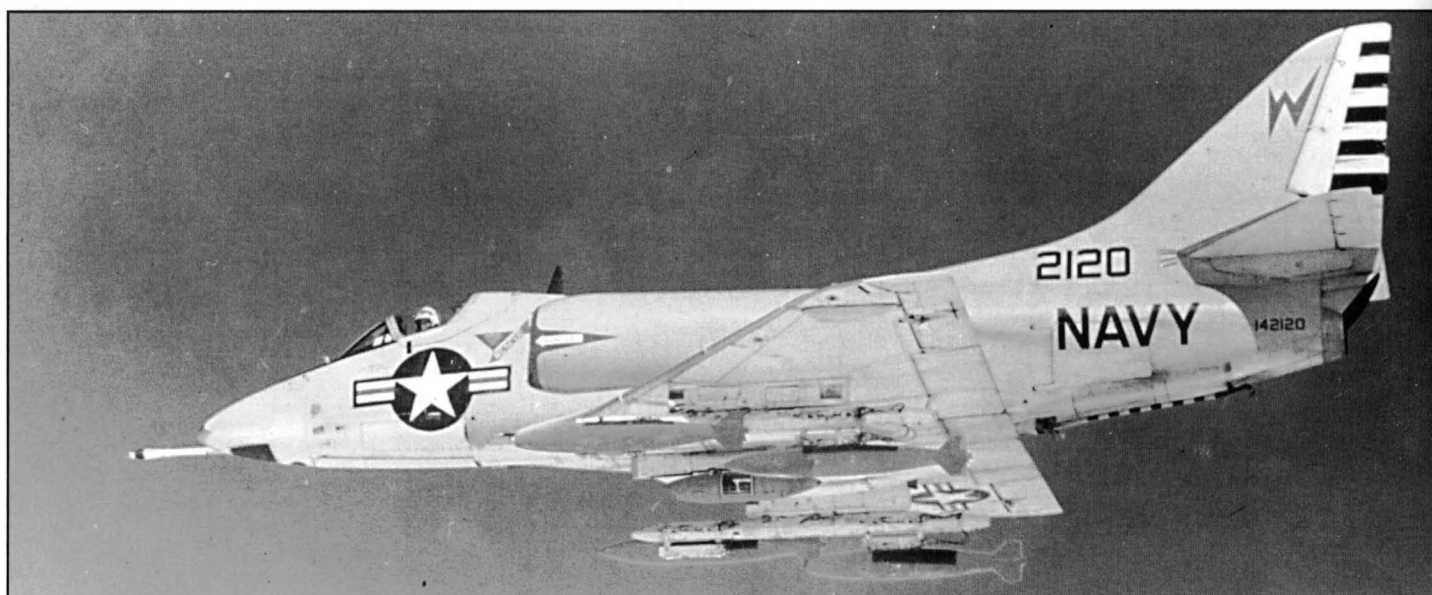
version. The second distinguishing feature was the addition of an in-flight probe to the right side of the fuselage. The refueling probes were added to the A4D-2 production line and some early A4D-2s were completed without them.

Above, the second A4D-2, BuNo 142083, on 18 May 1957 remained at Douglas for testing purposes. The tail is red with white rudder ribs. (Smalley via Swisher) Below, 142083 at Edwards AFB on 16 May 1959. Tail, nose, and intakes were painted da-glo red by this time. (Swisher) Above right, 142083 with eighteen 500 lb bombs in flight. (Douglas) At right, A4D-2 142095 in roll-out scheme was completed without the in-flight refueling probe. (Douglas)





At top, YA4D-2 142091 assigned to Service Test with da-glo nose, fin tip and outer wing tips. (via Burger) At right, A-4B 142837 assigned to Flight Test Division with 18-bombs mounted in 1965. (Jim Burrridge) At right below, A4D-1 142170 assigned to Weapons Test Division in 1961. Rudder and "W" on the tail were da-glo red. (via Burger) Below, A4D-1 launches with the aid of JATO at NAS Patuxent River, MD, in 1958. (USN) Bottom, A-4B 142120 assigned to Weapons Test Division with four practice bombs. Bombs and "W" on the tail were da-glo; rudder was black and white. (Douglas)



Above, A-4A 137813 was assigned to Service Test Naval Air Test Center, Patuxent River, MD, on 15 July 1967. "S" on tail was black outlined in white. (via Norm Taylor) At right, A-4B 144947 in storage in January 1972. Nose, tail and outer wing panels were red. Aircraft was assigned to Service Test. Bottom, NA-4B 142120 was assigned to the Navy Test Pilot School at Patuxent River, MD, on 21 April 1971. Nose and tail were red, the stylized F4D-1 was black. (Besecker)



TEST PILOT SCHOOL NAS PATUXENT RIVER MARYLAND (NATC)





The Naval Air Testing Facility Lakehurst, NJ, was used to test and rate aircraft for fleet usage and compatibility with existing and new catapult, arresting and barrier equipment.

Below, A4D-1 137819 at NAS Lakehurst remained in natural metal finish after transferring from the Douglas test program. Da-glo orange was added to the aft fuselage. The nose and tail fin were in red/orange and the NATF chevrons were red. The rudder was silver. Drop tanks were white. (O'Dell via Swisher) Bottom, A-4B 142089 with an aerial torpedo on the centerline is tensioned for firing from a NATF test catapult. Tail and NATF chevrons were red/orange. (USN) At right top, NA-4B 142089 on 16 October 1968. NATF insignia is on the fuselage intake and the tail fin and rudder were red/orange. (Roger Besecker) At right, A-4B 142834 with red/orange nose, tail and outer wings in May 1965. (R. Esposito via Norm Taylor) Right bottom, YA-4B 142685 being fueled with JP-5 in September 1963. Nose and tail fin were red/orange. (via Nick Williams)





Above, A4D-1 137813 was assigned to the Naval Parachute Facility (NPF) at NALF El Centro on 19 March 1960 before becoming the Naval Aerospace Recovery Facility (NARF). Aircraft was all-over white with da-glo red nose, tail and wing markings. (William Swisher) Below, A-4B 142835 with NARF insignia on tail on 31 March 1966. Fuselage panels aft of intakes were outlined in red. (William Swisher) Bottom, A-4B 142907 on 11 March 1967. Tail flash was yellow outlined in blue. (Swisher)



Below, A-4A 137820 on 21 March 1966. When it was assigned to the Naval Aircraft Torpedo Unit (NATU) it retained its natural metal finish. Red speed brake stripes were a carryover from Douglas testing. The nose and rudder were gull grey. The tail, aft fuselage and intake markings were red. Drop tanks were white but were originally red. (William Swisher) Bottom, A-4A 139931 on 21 March 1966 in all-over white with red aft fuselage, tail, and intake markings. Rudder was white. (William Swisher)





Above, YA4D-1 137827 at Oklahoma City in September 1956. (D. Olson via Swisher) At right, 137827 in March 1956, note Albuquerque is written beneath NAVY on the fuselage side. (Steve Brown) Below, A4D-1s 137827 and 137831 with nose probes in flight near Albuquerque, NM. (USN via Craig Kaston) Bottom, A4D-1 142170 was assigned to NASWF in 1955. Nose, tail and outer wings were da-glo red. (Steve Brown)

The unit's mission was to test, develop and evaluate hardware and procedures for mounting and using new and existing nuclear weapons on current and new Navy and Marine aircraft.



Above and below, A4D-1 137830 at Kirtland AFB, NM, home for NASWF in September 1955. (Steve Brown) Below, 137830 again in 1956. Aircraft was grey with white undersides. (Ginter collection) Bottom, A4D-1 137831 at Douglas while assigned to NASWF. Douglas test boom was still attached and the aircraft was grey with white undersides. A NASWF insignia is on the nose. (Ginter collection)





NOTS was established to conduct rocket and aviation ordnance testing and development under the leadership of CALTECH. The A4D was one of many aircraft used at China Lake.



Above, A-4A 137818 is fitted with a Gladeye antipersonnel weapon on the centerline. The nose, tail and outer wings were painted da-glo red. (USN via Barry Miller) Below, A-4B 142892 at NAS China Lake on 20 February 1963 preparing for a test flight of the Rockeye I. (USN via Barry Miller) Bottom, A4D-1 137829 at China Lake on 18 May 1957. (Doug Olson via William Swisher)



The basic mission of NMC is to integrate new and existing missile systems into the fleet.

Below, A-4B 145034 at NAS Point Mugu was grey and white with white nose and rudder. Nose, tail fin and outer wing panels were da-glo red. A-4C 145067 is in the foreground. (USN via Craig Kaston) Bottom, A-4B 142141 in flight with three red AQM-37 target missiles. The nose, tail and outer wing panels were da-glo red. (USN via Craig Kaston)





At top, A-4B 142735 turns onto final at NAS Barbers Point in 1967. The tail was deep red. (Nick Williams) Above right, red-tailed A-4B 142112 in 1967. (Nick Williams) At right, A-4B 142842 takes off in 1968 in grey and white scheme. (Nick Williams) Below, A-4B 142865 on 2 August 1969. (B. Stainer via Norm Taylor)



Anti-Submarine Fighter Squadrons were originally conceived to provide four-plane detachments (Dets) to each CVS/ASW carrier. This would give the CVS carriers a limited air defense and combat air patrol ability. For this mission the Skyhawks were equipped with two wing-mounted Sidewinders and two 20mm cannons. This role was expanded to include a full light attack capability prior to the first deployment.

VSF-1 was established on 1 July

1965 at NAS Lemoore, CA. They moved to NAS Alameda, CA, while equipped with the A-4B Skyhawk. The squadron's first deployment was aboard the USS Shangri-La (CVS-38) from 29 September 1966 to 20 May 1967. On 1 April 1967, VSF-1 was split in two and VSF-3 was established. In August 1967, the squadron re-equipped with the A-4C Skyhawk. VSF-1 was disestablished on 1 January 1970.



Above, A-4B 144956 at NAS Alameda on 10 April 1966. The squadron's tail code was "NA", which would be changed to the respective Air Group's tail code when deployed aboard ship. (Larry Smalley via William Swisher) Below, YA-4B 145002 "Rudolph the Red Nosed Skyhawk" on 15 December 1966. "Rudolph" had an F-11A Tiger radar nose grafted on. Note white eyeball with black pupil painted on the red nose. (Larry Smalley via William Swisher)





Above, VSF-1 A-4B 144967 at NAS Alameda on 28 October 1966. Rudder markings were green and white. (William Swisher) Below, VSF-1 A-4B 142126 at Alameda on 23 November 1966. Note squadron insignia on the fuselage aft of the intake. (Larry Smalley via William Swisher) Bottom, VSF-1 A-4B 142872 after returning from its cruise aboard the USS Shangri-La on 23 May 1967 with "AJ" tail code and 5XX modex. (William Swisher)



Above, VSF-1 A-4B 145022 from the Shangri-La after returning to NAS Alameda on 22 June 1967. (Smalley via Swisher) Below, VSF-1 A-4B 142772 had been painted with the USS Intrepid's "AK" tail code on 7 January 1967 in preparation for deployment. By the time the squadron deployed, it had been split into VSF-3 and was deployed as such. (William Swisher) Bottom, VSF-1 A-4B 144929 also slated for usage on the Intrepid as a VSF-3 aircraft on 31 March 1967. (Smalley via Swisher)

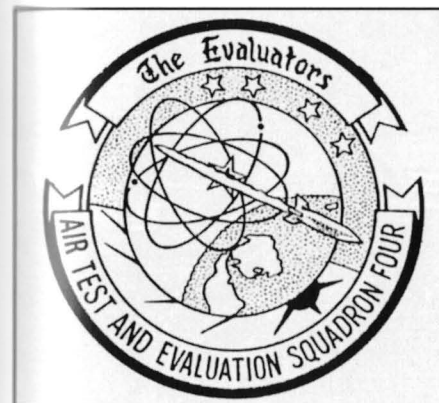




VSF-3 was established on 1 April 1967 at NAS Alameda from elements of VSF-1. The squadron deployed aboard the USS Intrepid (CVS-11) from 11 May through 30 December 1967. Aircraft still at Alameda were exchanged for A-4Cs starting in August 1967. VSF-3 was disestablished on 9 February 1968.

Below, A-4B 142772 at Alameda on 6 April 1967. (Smalley via Swisher) Bottom, VSF-3 A-4B 142687 on board CVS-11 in 1967 while armed with Sidewinder missiles. (USN via Roos)

The Intrepid spent the cruise on station off Vietnam. The combat line periods were: 21 June to 13 July 1967; 30 July to 27 August 1967; 15 September to 12 October 1967; and 1 November to 23 November 1967. On 2 July 1967, LTJG Fredrick Kasch was killed in 145002 by AAA while attacking targets in North Vietnam. Another pilot, LTJG A. D. Perkins, was also shot down by AAA. Luckily, he was recovered after being lost in 142114 on 3 October 1967. Finally, 142742 was lost on 26 November 1967, but the pilot was rescued.



Air Development Squadron Four was established on 15 September 1952, at the Naval Missile Center, Point Mugu, CA. The squadron's mission was to conduct projects dealing with the evaluation of air-launched guided missiles. VX-4's mission evolved into the development of a missile or missile component and its best use as a weapon, to conduct tests and evaluations of aircraft weapons systems and support systems in an operational environment, and to develop all-weather intercept tactics for air-launched missiles.

VX-4 would eventually operate every version of the Skyhawk in its research and development projects.

Three views of A4D-1 142417 on 27 May 1958 while testing the Bullpup weapon system. (USN via Barry Miller and Vance Vasquez) At bottom 142417 is seen in flight with Bullpup-armed FJ-4B 143495. Wing tip trim on both aircraft was blue and fin tip was blue with white stars and a thin red stripe on the bottom.





Above, A4D-2 142417 on 16 May 1959 at NAS Point Mugu, CA. (William Swisher) Below, A-4B 142675 on 10 November 1963. Operational Test And Evaluation Force was painted on the fuselage. Fin tip was da-glo red, tail stripe was blue with white stars. (William Swisher) Bottom, A4D-1 137814 at NAS Miramar, CA, on 12 September 1959. (William Swisher)



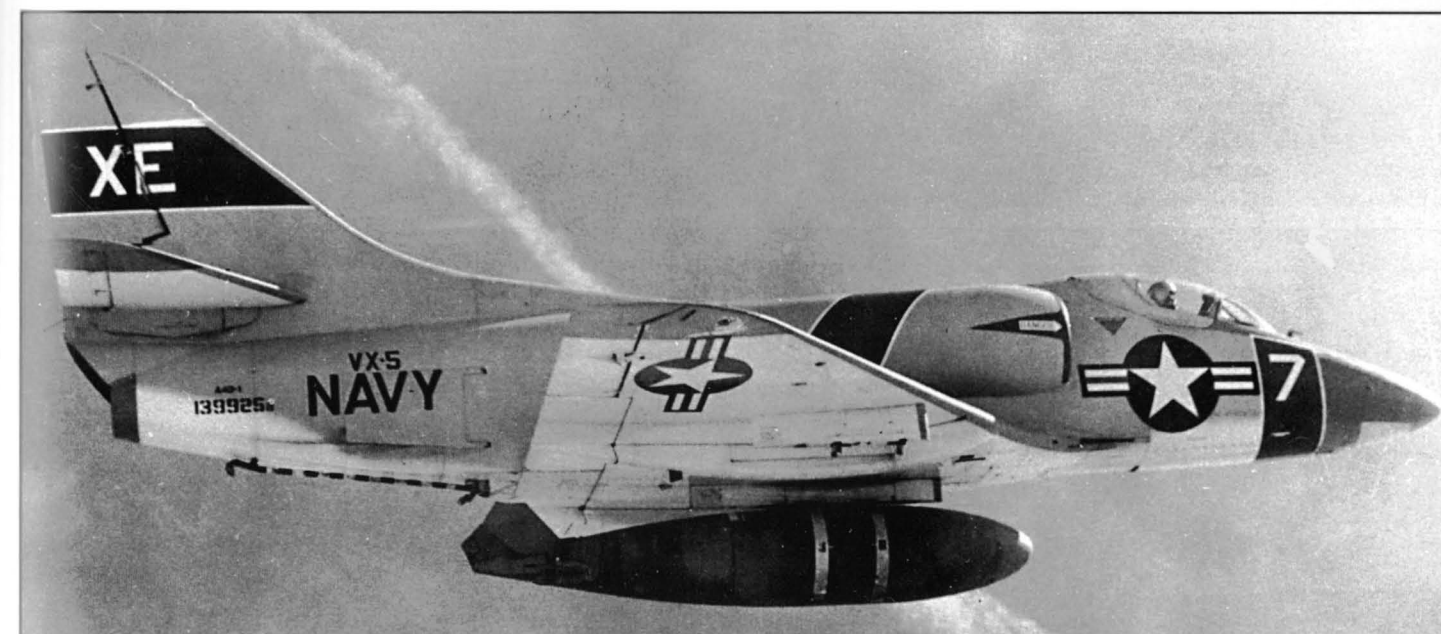
AIR DEVELOPMENT SQUADRON FIVE (AIRDEVRON FIVE), VX-5 "VAMPIRES"



Originally known as Air Development Squadron Five, VX-5 was established on 18 June 1951 at NAS Moffett Field, CA. Initially, its mission was to develop and evaluate aircraft tactics and procedures for the delivery of airborne special weapons. In July 1956, the squadron moved to NAF China Lake, CA, thereby enabling the unit to take advantage of the vastly improved ranges and technical facilities at China Lake. In January 1969, the unit's designation was changed to Air Test and Evaluation Squadron Five.



Above, T-63 shape being tested on an A4D-1. Below, A4D-1 139925 carries another T-63. Tail and fuselage stripes were dark green bordered by white. The nose of the aircraft and the T-63 were da-glo red. (USN via SDAM)



At left bottom, VX-5 A4D-2 142122 in flight in 1958 with a Douglas "Buddy" refueling store on the centerline. (USN via Barry Miller)

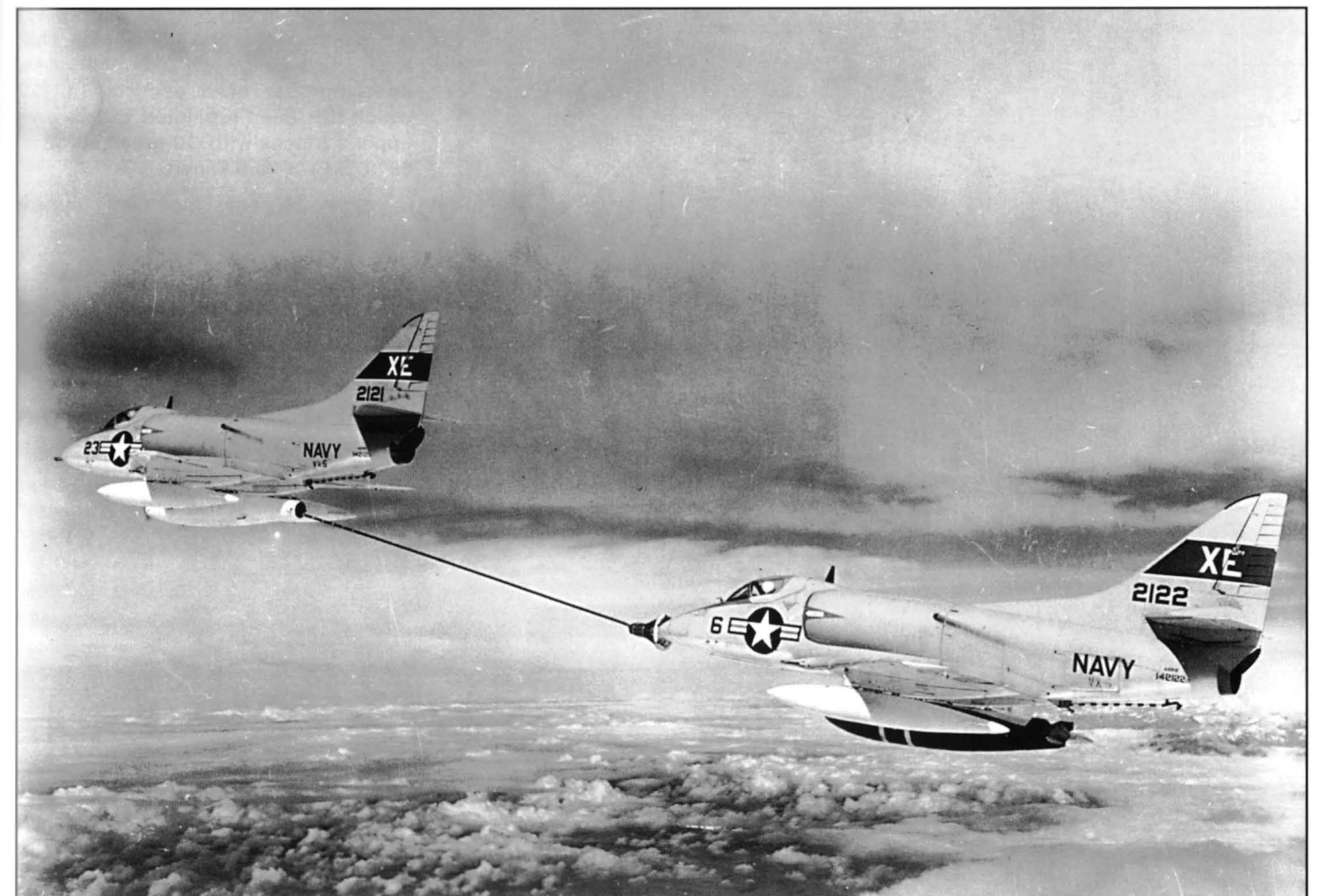




Above, A4D-2 142122 taking off with a T-63 shape from NAAS El Centro, CA, on 18 April 1958 during the Navy Weapons Meet. (USN) Below, 142122 at China Lake fully loaded with 500 pound bombs. Tail stripe was green. (via Craig Kastan)



Above, A4D-2 142122 at MCAAS Yuma with a load of practice bombs on 3 December 1959. (William Swisher) Below, A4D-1 142121 refuels T-63 equipped A4D-2 142122 on 8 March 1958. (USN)





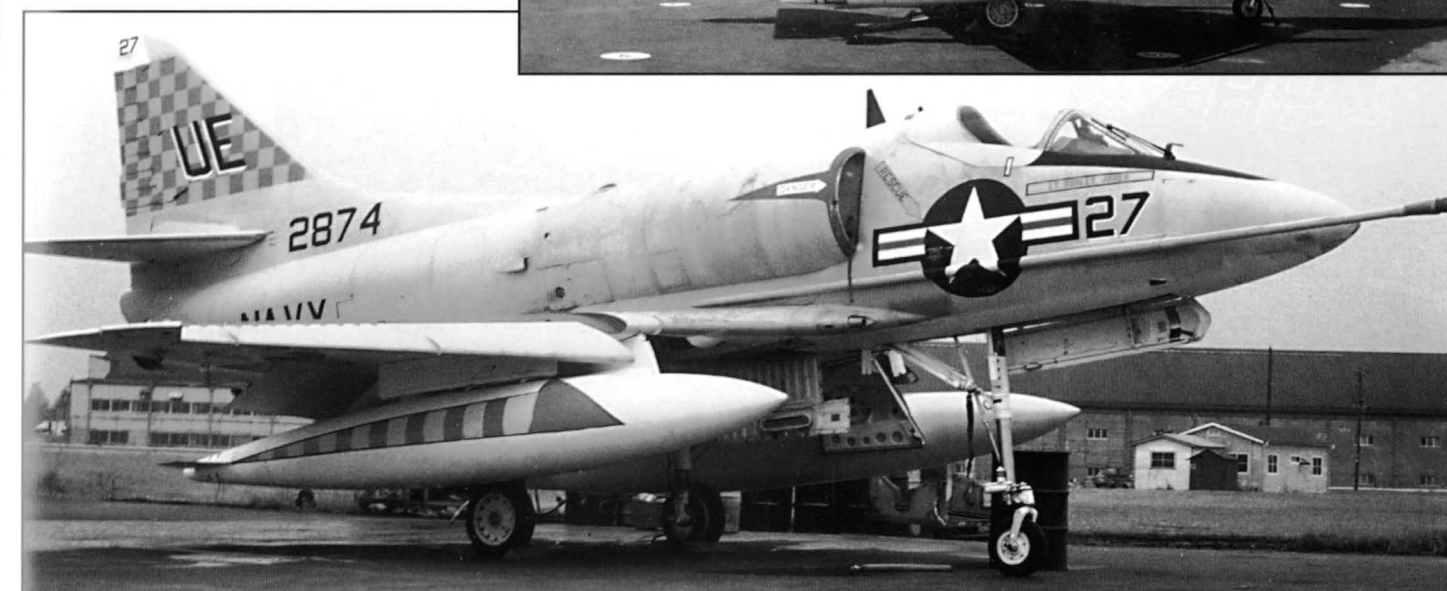
VX-5 "VAMPIRES"

Above, VX-5 A4D-2 145041 carrying a MK 7 nuclear shape (T-63) on the centerline. The Skyhawk could carry the MK 7, MK 12 and MK 91 special stores. Note a face has been painted on the shape. (USN via Barry Miller) At left, the demise of A4D-1 139929 in 1959 to unknown causes. Although the damage appears to be caused by compressor blades departing the engine casing. (USN) Below, 145041 with new nose number of 5 escorts 142122 which has been repainted with brown upper surfaces with OD green splotches. (USN via Paul Minert)



Fleet Composite Squadron Five (VC-5) was established on 1 July 1965 when UTRON FIVE (VU-5) was redesignated. VC-5 is based ashore at NAS Atsugi, Japan. The squadron maintained Detachment NAHA (Det Alpha) at NAHA AFB, Okinawa. Detachment CUBI PT. (Det Bravo) was assigned to NAS Cubi Point, Luzon, Philippines, until we relinquished control of our bases to the Philippine government. The squadron's mission is to provide air services for fleet training tasks (towed targets, drones, photo services, CIC and ECM services).

Above, close-up of gold and da-glo red checkertail on A-4B 142874 in 1968. At right, A-4B 144874 and 142874 below, had gold and da-glo red wing tanks. LT Dudley Jones is painted on the nose of 142874 below. (Nick Williams)





Utility Squadron Seven (VU-7) was commissioned on 4 December 1942 at NAS Alameda, CA, with the mission of providing utility aircraft services to units of the Pacific Fleet. These services included the towing of aerial targets and launching of self-propelled drone targets for surface-to-air and air-to-air gunnery and missile firing; providing airborne targets for the fleet Anti-aircraft Warfare Training Center; radar calibrations; ECM exercises; inflight refueling; and other utility and administrative services within the capabilities of the assigned aircraft.

While flying the A-4 and F-8 aircraft, the squadron was based at NAS Miramar. In 1965 the squadron's assets consisted of four F-8As, fourteen F-8Cs, four DF-8Fs and nine A-4Bs. VU-7 was redesignated Fleet Composite Squadron Seven (VC-7) on 1 July 1965.

Below, VU-7 A-4B 142874 at NAS Miramar on 18 March 1965 with da-glo red tail. (USN via Fred Roos) Bottom, VU-7 A-4B 144872 on 3 April 1965 at Miramar. Panel lines painted on the fuselage were red. (William Swisher)



Fleet Composite Squadron Seven was established on 1 July 1965 when Utility Squadron Seven was redesignated VC-7 and placed under the command of Commander Fleet Air Miramar. At that time, the squadron had a complement of four DF-8A, fourteen F-8C and thirteen A-4B aircraft. A-4B strength grew to twenty aircraft by December 1968. The A-4C replaced the A-4Bs in 1969.

VC-7 continued to fly Skyhawks

until its disestablishment on 30 September 1980. It would utilize the A-4B, A-4C, A-4E, A-4F, A-4L, TA-4F and TA-4J Skyhawks.

On 10 December 1965, VC-7 (previously nameless as UTRON-7) selected the name "TALLYHOers", which means "Target Visually Sighted". VC-7 pilots used the term approximately 1500 times a month while flying practice air intercepts for various naval activities in Southern California.



Above, VC-7 A-4B 144875 at NAS Miramar on 19 February 1966. "TALLYHOers" has been added to the da-glo red vertical fin stripe. (William Swisher) Below, VC-7 A-4B 142768 with squadron insignia on the fuselage on 28 January 1967. (Swisher)





Commissioned on 12 May 1945 as Fighting Bombing Squadron Four (VBF-4) at NAS Alameda, CA, the "Flying Ubangis" first aircraft was the F4U-4 Corsair. On 15 November 1946, VBF-4 was redesignated Fighter Squadron Two A (VF-2A). In May 1947, the unit converted to F8F-1 Bearcats and a small compliment of F6F-5P Hellcats. VF-2A was redesignated Fighter Squadron 12 (VF-12) in September 1950 when they re-equipped with the F2H-1 Banshee. These were replaced with F2H-2s in December. On 1 August 1955, VF-12 became Attack Squadron Twelve (VA-12) and converted to the F7U-3

Cutlass in December 1955. In April 1957, VA-12 received the A4D-1 Skyhawk.

The squadron's mission was the delivery of special weapons. Under the command of CDR Marshall P. Deputy, Jr., VA-12 embarked to Guantanamo Bay (GITMO), Cuba, in October 1957. VA-12 had the distinction of landing the first jet aboard the USS Ranger (CVA-61) on 25 October. The "Flying Ubangis" tour aboard the Ranger made it the first AIRLANT squadron to deploy the A4D-1 Skyhawk for an extended period of time. In January 1958, the

Above, VA-12 A4D-1 in 1957. Fuselage and fin tip stripes were medium blue on the outside and a yellow stripe in the center. Each stripe was outlined by thin black lines. Anti-glare panel was medium grey. (via Craig Kaston) Bottom, A4D-1 142179 floats across the deck of the Ranger on 2 November 1957 near Guantanamo Bay, Cuba. (USN via Craig Kaston)

squadron upgraded to the A4D-2 Skyhawk.

VA-12 deployed on the USS Forrestal (CVA-59) in 1958-1959.



During this cruise, VA-12 instituted in-flight refueling on all long navigational flights and qualified all pilots in night air-to-air refueling. The "buddy store" concept was fully evaluated during NATO exercise Crescent Hinge on 7 October 1958. The squadron inaugurated standby tanker procedures on Forrestal by providing an aircraft with full fuel and buddy tank on a ready catapult.

During the 1959 AIRLANT annual

competitive weapons exercises, the "Flying Ubangis" set records in over-the-shoulder loft delivery, night dive bombing and the profile mission exercise. The 13 pilots who participated in these exercises won a total of 59 Navy "E"s. Squadron skipper, CDR Bill Barrow, won an unprecedented eight-for-eight. These wins sent the squadron to the Naval Weapons Meet at Yuma where they took second place. In this meet, LT Joseph Malec, VA-12's weapons training officer, won

Above, VA-12 A4D-1 at Master Field, Miami, FL, on 25 January 1958. The aircraft carries a NAVPACK on the centerline and the early 150 gallon wing tanks. "LCDR Sullivan" is painted below the windscreen. (William Swisher) Below, VA-12 A4D-2 approaches the fantail of the USS Forrestal (CVA-59) on 28 July 1958. Rudder stripes were blue yellow blue. (SDAM)

top individual A4D honors and was awarded the Herman trophy. The





squadron continued to set more weapons records after returning from Yuma. These included: the minimum altitude "skip-bombing" record, medium angle loft, low angle loft, dive bombing and rocketry.

The squadron was scheduled for a deployment aboard the USS Essex

(CVA-9) and wore the ship's name on the fuselage side while at the weapons meet. Instead, VA-12 boarded the USS Shangri-La (CVA-38) in 1960. In November, the squadron was part of the task force sent to guard against the infiltration of Cubans into Guatemala and Nicaragua. During 1960, the

Above, VA-12 A4D-2 142694 from the USS Forrestal in flight over the ocean. Note the oil streak on the fuselage aft of the vent was typical of A4D-1/2 aircraft. It was normal procedure to add a quart of oil before each flight. (via SDAM) Below, six VA-12 A4D-2s on the ramp at the Yuma weapons meet in 1959. USS Essex was painted on the fuselage in red. (Douglas)



Above, CAG bird A4D-2 142420 on the ramp at Yuma in December 1959. Fuselage and rudder stripes were a yellow stripe flanked by blue ones. "USS Essex" was painted in red on the fuselage side. A Mark I Mod 0 "Boar" atomic practice T-63 shape was fitted on the centerline. (Harry Gann) At right, A4D-2 142129 aboard the USS Shangri-La in 1960. (via Burger) Below, A4D-2 142693 at Yuma on 3 December 1959. Note "E" and three bomb symbols appear aft of the intakes. (William Swisher)



squadron set an all-Navy "E" record as they accumulated 100 "E"s during the year. They also participated in NATO exercises "Swordthrust I and II" during 1960.

The squadron deployed to the Mediterranean in February 1961 aboard the USS F. D. Roosevelt (CVA-42). By this time the squadron had added the Bullpup air-to-surface

missile to its arsenal. In January 1962 the squadron switched to the A4D-2N (A-4C).





Above, VA-12 A4D-2s 142711, 142718 and 142422 from the USS F. D. Roosevelt (CVA-42) in flight in 1961. (USN) At left, CAG bird VA-12 A4D-2 142420 with buddy store mounted on the centerline tied down on board the USS Shangri-La in 1960. (via Burger) Below, In 1961, armorers walk away from VA-12 A4D-2 142719 after loading a Bullpup missile on the centerline. The plane captain at left wheels a Skyhawk boarding ladder across the deck. The aircraft have orange rudder tabs. (USN)



ATTACK SQUADRON FIFTEEN, VA-15 "VALIONS"



VA-15 was originally established as Torpedo Squadron Four (VT-4) on 10 January 1942. Initially equipped with TBD Devastators, the squadron transitioned to TBF/TBM Avengers in August 1942. On 15 November 1946, VT-4 became Attack Squadron Two A (VA-2A) and on 2 August 1948 became Attack Squadron Fifteen (VA-15). They acquired AD

Skyraiders on 19 August 1949 and flew the type until December 1965 when A-4Bs were acquired.

In August 1965, VA-15 reported to VA-44 for transition training on the A-4B Skyhawk. The official acceptance of the Skyhawks occurred in December and the squadron proceeded to work-up for its deployment

Above, VA-15 A-4B 142945 from the Intrepid in 1966 with five bombing missions marked on the fuselage aft of the insignia. Butler's Last Chance Gas Station was written on the tail. (USN via the Tailhook Association) Below, VA-15 A-4Bs line-up and await their turn at being hoisted aboard the USS Intrepid for their deployment to the waters off the coast of Vietnam. (USN via the Tailhook Association)





to Vietnam as part of CVW-10. CVW-10 deployed aboard the USS Intrepid (CVS-11) from 4 April through 21 November 1966. The Intrepid, an anti-submarine carrier, was operated as a limited attack carrier and had two squadrons of Skyhawks and two squadrons of Skyraiders.

On 15 May 1966, the Valions flew their first combat mission of the Vietnam War under the command of CDR Jack L. Gracey. The squadron's only loss during the cruise was that of A-4B 145040 and its pilot due to an operational accident. While on the line the squadron flew 4,777 hours

Above, A-4B 144997 with ten mission marks on the fuselage and "Valions" painted on the centerline tank in 1966. (via Burger) Below, A-4B 144919 is prepared for a mission over Vietnam from the USS Intrepid (CVS-11) in 1966. "Valions" was painted on the centerline tank and ordnance men load rocket pods onto the wing racks. (USN)



and 2,627 sorties over Vietnam. After returning from Vietnam, VA-15 transitioned to the A-4C Skyhawk in 1967.

The squadron was disestablished on 1 June 1969 and a new (second VA-15) was established on 2 June 1969 through the redesignation of VA-67 to VA-15. The new VA-15 assimilated the old VA-15s insignia and name and was equipped with the A-7B Corsair.



Above, Pilot of 145013 waves upon leaving for a cross country. Upon return from cruise, the Tonkin Gulf Yacht Club insignia was applied to the tail. "Double nuts" had 45 mission marks. (Harry Gann) At right, 142741 taxiing to the catapult. Below, 144918 with blue fin tip and drop tank trim also had 45 mission marks. (Harry Gann)





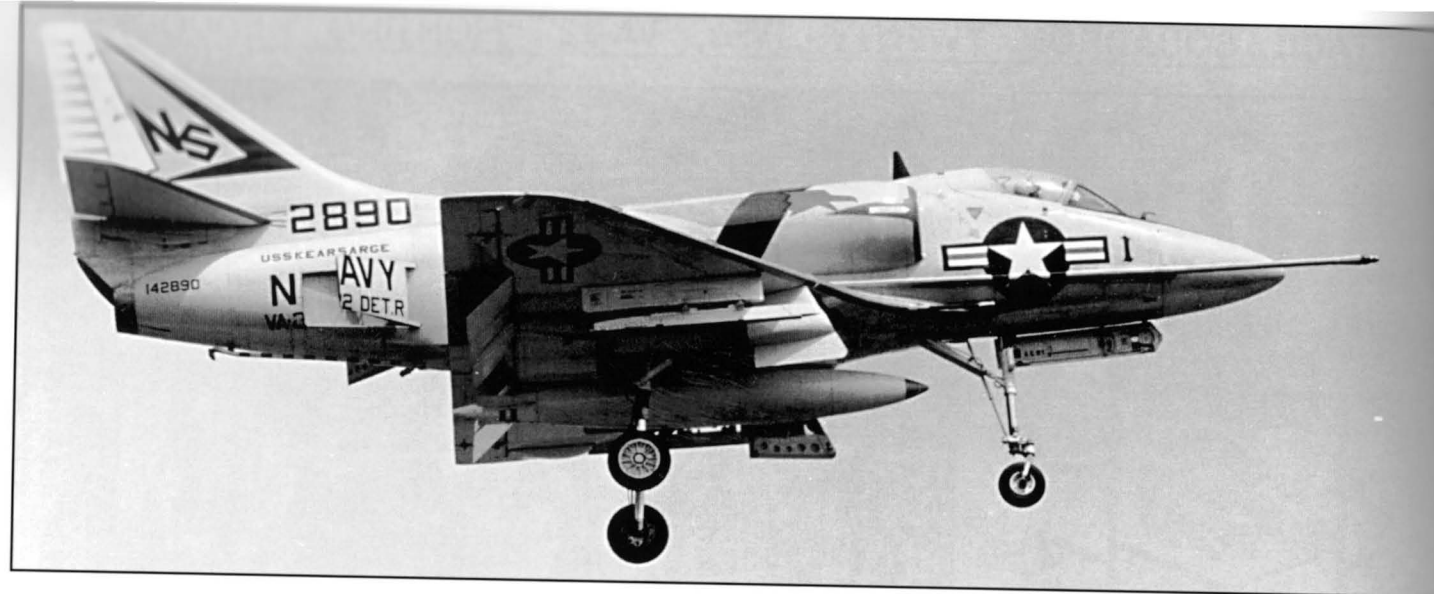
Above, VA-15 flight line left to right: 145013 00/AK, 145057 301/AK and 144918 310/AK in 1966. (Harry Gann) Below, three VA-15 A-4Bs and one VA-15 A-4C in flight over the Atlantic in 1967. Top to bottom: A-4C 149621, A-4B 142717, A-4B 145013, and A-4B 144997. Mission marks, squadron and Tonkin Gulf Yacht Club insignias are still displayed on the A-4Bs. (USN)



Attack Squadron Twenty-Two was originally established as Fighter Squadron Sixty-Three (VF-63) on 27 July 1948 at NAS Norfolk, VA. The squadron's first aircraft was the F4U Corsair. These were replaced with F9F-2/5 Panthers in November 1952 which in turn were replaced with F9F-8 Cougars in July 1955. The squadron's mission changed to that of light attack and its designation was changed to Attack Squadron Sixty-Three (VA-63) in March 1956. In July 1957, the Cougars were replaced with the FJ-4B Fury. Then, on 1 July 1959, VA-63 was redesignated Attack Squadron Twenty-Two (VA-22). In March 1960, they transitioned to the A4D-2 Skyhawk. On 6 October 1961, the A4D-2s were replaced with A4D-2Ns but a small number of A4D-2s



Above, VA-22 1961 squadron photo. Top row left to right: LCDR C. L. Bush, LTJG B. C. Erikson, LT F. J. Peters Jr., LT R. F. Hanna, LTJG E. E. Wanglie, LCDR R. P. Vaillancourt, LT W. A. Lacy, LT J. V. Walters, LT R. A. Pouchert, LT J. V. Kirk, LTJG H. R. Wees, and LTJG J. B. Moore. Bottom row left to right: LT G. L. Davison, LCDR L. C. Hofto, LCDR E. H. Gunther, CDR J. D. Kendall (CO), LCDR B. H. Shaperd, LCDR J. J. Molnar, and LT R. A. Moonan. (USN) At right, VA-22 aircraft wait for their turn on the Midway's catapults in 1961. (USN)



were retained for use as DETs on anti-submarine carriers. The squadron flew the A-4Cs until June 1968 when they were replaced with A-4Fs and a limited number of TA-4Fs. On 4 February 1971, the squadron transitioned to the Vought A-7E Corsair II.

While equipped with the "B" version of the Skyhawk, the squadron, under the command of CDR Jack D. Kendall, only deployed once. They

made a WESTPAC cruise aboard the USS Midway (CVA-41) from 16 February through 28 September 1961. The Midway and VA-22 operated in the South China Sea and monitored the crises in Laos.

In addition, the squadron sent a detachment of four A-4Bs to provide fighter and attack coverage for the USS Kearsarge (CVS-33) in April through December 1963. The detach-

ment was commanded by LCDR I. C. Chambers and the aircraft nose numbers were 1, 11, 111, and 1111.

Above, 142890 landing at NAS Atsugi on 10 July 1963. (T. Matsuzaki) Below, Sidewinder-equipped 142134 launches from CVS-33 in 1963. Fuselage stripe and tail markings were black and the DETS Redcock head was red. (USN)



ATTACK SQUADRON TWENTY - THREE, VA-23 "BLACK KNIGHTS"



VA-23 was originally established as Reserve Fighter Squadron Six Five Three (VF-653) at NAS Columbus, OH, in December 1949. Initially equipped with F4U-4 Corsairs, the squadron converted to F9F-2 Panthers in August 1952. On 4 February 1953, the unit was redesignated Fighter Squadron One Five One (VF-151). On 7 February 1956, they became Attack Squadron One Five One (VA-151) and re-equipped with F7U-3 Cutlasses. In January 1957, the squadron switched to F9F-8 Cougars, which were replaced with FJ-4B Furys in August 1957. On 23 February 1959, the squadron was redesignated Attack Squadron Twenty-Three (VA-23). In May 1960, the Black Knights received the A4D-2 Skyhawk.

As part of CAG-2, the "Black Knights" deployed aboard the USS Midway (CVA-41) from 16 February through 28 September 1961. During April, the squadron flew 111 consecutive sorties from the ship without losing one flight attributable to maintenance availability. When the squadron returned to the United States, CDR Gorsline was detached and LCDR E. E. Riley assumed command and moved the squadron to the new master jet base, NAS Lemoore, CA. In November 1961, CDR G. M. Veling assumed command. After a training cycle of six months, which included a Fallon deployment and several carrier based exercises, the squadron departed for WESTPAC in April 1962



aboard Midway. CDR Veling was lost at sea in September 1962 and was succeeded by the executive officer CDR E. E. Riley. After returning to NAS Lemoore, in October 1962, the squadron took part in the First Fleet Exercise "Nightstick".

In December 1962, VA-23 became the first fleet squadron to

receive the new Douglas A-4E.

Above, VA-23 A4D-2 142092 at NAS Alameda, CA, on 21 May 1960. Rudder was grey and fin tip was orange. (Larry Smalley via William Swisher) Below, VA-23 A4D-2 142904 is being hoisted aboard the USS Midway (CVA-41) in February 1961. (USN)





Above, VA-23 A4D-2s 144902 402/NE, 145055 401/NE, 142910 412/NE, and 144936 405/NE over the Pacific in 1962. (USN)
Below, VA-23 A4D-2 prepares to launch from the USS Midway in 1962. (USN)



ATTACK SQUADRON THIRTY - FOUR, VA-34 "BLUE BLASTERS"



VA-34 was originally commissioned as VF-20 on 15 October 1943 with F6F-3 Hellcats as a unit of Air Group 20 at NAS San Diego, CA. F8F-1 Bearcats replaced the Hellcats in April 1946 and the squadron was redesignated VF-9A on 15 November 1946. On 12 August 1948, VF-9A was redesignated VF-91 and F8F-2s replaced the F8F-1s in December

1948. Then, on 15 February 1950 they were redesignated VF-34 and received Grumman F9F-2 Panthers in November. F2H-2 Banshees replaced the Panthers in February 1952 and the squadron was redesignated Attack Squadron 34 (VA-34) on 1 July 1955. In October 1955, VA-34 received its first Vought F7U-3 Cutlasses which were operated until receipt of her first A4D-1 Skyhawks in March 1957.

Under the command of CDR E. L. McClintock, the squadron deployed aboard the USS Saratoga (CVA-60) on a cruise to the MED. During the cruise, the squadron compiled over 2700 hours and 1500 carrier landings. Three times during the 8-month deployment the "Blue Blasters" topped 500 accident-free hours while aboard the Saratoga. In fact, VA-34 received the CNO safety award for Atlantic Fleet attack squadrons in 1958. On 4 March 1958, VA-34 conducted cross-deck operations on the British aircraft carrier HMS Ark Royal

Then, in July 1958 support missions were flown to protect United States Marines during amphibious landings in Beirut.

The squadron transitioned to the A4D-2 Skyhawk in October 1958 and became the first AIRLANT squadron to launch a Bullpup missile in June 1959. This was followed by intensive training and live firings by all squadron pilots.

The Bullpup training started with practice on the ground guidance simulator. This gave the pilot the feel for the Bullpup and how it reacted to their commands. A flick of the switch and the spot of light on the cathode ray screen swings to the left. Another flick, this time in a different direction

Below, the first A4D-1s received by VA-34 carried the single tail code letter "K". On 28 May 1957, 139963 and 139969 had blue tail trim and canopy surrounds. (Douglas)





and the light rises --- the same as if it were a live Bullpup. Practice on this trainer taught the VA-34 pilots the rudiments that later paid off in bullseyes.

In August 1959, VA-34 deployed aboard USS Saratoga for a Med deployment with the Sixth Fleet which ended on 26 February 1960. Upon completion of a training cycle, the squadron carqualed aboard Saratoga and in August 1960 once again deployed aboard the USS Saratoga

to the Mediterranean. In February 1961, VA-34 completed its deployment after a total of 2,930 hours with 1,596 landings.

In April 1961, VA-34 operated from the USS Essex (CVS-9) in the Caribbean Sea during the Bay of Pigs invasion of Cuba. They operated as part of CVSG-60. During the three week deployment, the squadron flew over 800 hours during 18 days of flying and made 512 arrested landings.

Above, VA-34 A4D-1 139965 piloted by LT Murdoch M. McLeod launches from the USS Essex (CVA-9) in November 1957. Fin tip, canopy surround, and drop tank markings were blue. (National Archives) Below, VA-34 A4D-1s 139968 (305/AC), 139928 (303/AC), and 139965 (306/AC) being started prior to launch. Blue tail stripes were added by 1958. (Douglas)

On 6 July 1961, VA-34 conducted a seven week cruise in the



Above, A4D-1 139965 being spotted on the USS Saratoga in 1958. Tail stripes and canopy rails were blue. (USN) Below, VA-34 CAG bird. A4D-1 139970 taxis on the USS Saratoga in 1958. Canopy surround and upper and lower tail stripes were blue. Vertical tail stripes were red, yellow, and green fore to aft. Squadron insignia is just aft of intake chevron. (USN)

Guantanamo Bay, Cuba, area. Upon returning to CONUS in August 1961, the squadron launched into an extensive weapons training phase to qualify all of her pilots prior to the squadron's forthcoming Mediterranean deployment. This deployment

ment aboard Saratoga was from 23 November 1961 through 11 May 1962. During the cruise, the squadron compiled 2,353 hours and 1,343 landings. In July 1962, VA-34 transitioned to the A4D-2N (A-4C) Skyhawk.





Above, hooks down! Five VA-34 A4D-2s return from a Bullpup demonstration in the Med in 1959. During the 1959 cruise aboard the USS Saratoga (CVA-60), VA-34 demonstrated the Bullpup's accuracy to the Italian War college in Naples, a second show in Naples, at Cannes, Barcelona, and several other locations in the Mediterranean. A blue fuselage flash was added on this cruise. (USN) Below, Bullpup-armed A4D-2s 144889 (311/AC), 144885 (310/AC), and 144920 (309/AC) on 16 June 1959. (USN)



Above, VA-34 A4D-2 144885 releases the arresting wire after trapping aboard the Saratoga in 1959. (USN via Tailhook Association) Below, the Blue Blasters prepare to take off from CVA-60 while armed with a single Bullpup on the centerline in July 1959. (USN via Fred Roos)





VA-36 started out as Fighter Squadron One Hundred Two (VF-102) on 1 May 1952 with FG-1Ds assigned. The squadron received F9F-5 Panthers in October and was redesignated Attack Squadron Thirty Six on 1 July 1955. The squadron transitioned to F9F-8/8B Cougars on 2 November 1956 and some F9F-8Ts starting on 14 April 1957. The A4D-2 Skyhawk was acquired on 11

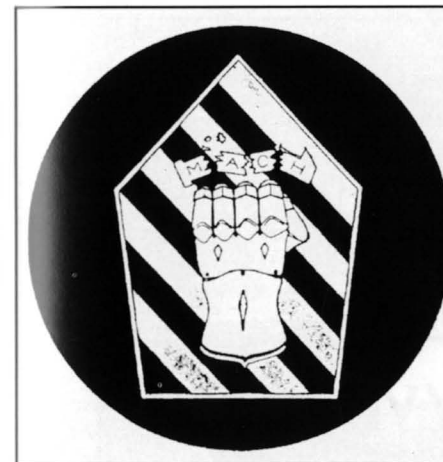


September 1958 and in turn was replaced with the A4D-2N (A-4C) on 21 March 1961. VA-36 was disestablished on 1 August 1970.

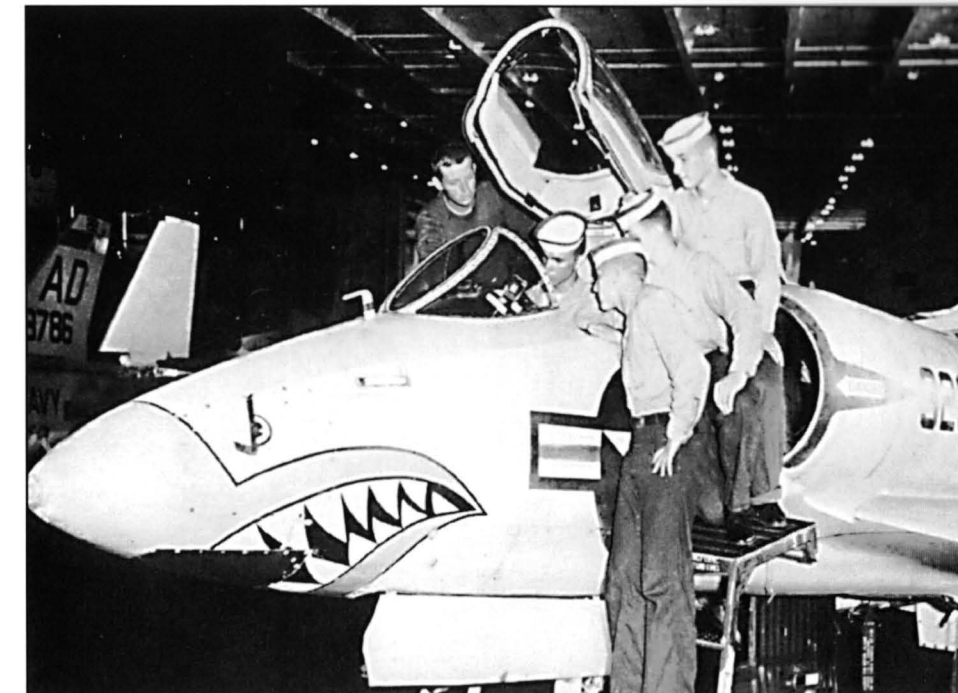
VA-36 deployed twice with the A4D-2 (A-4B). Both deployments were aboard the USS Saratoga (CVA-60); the first from 15 August 1959 through 26 February 1960, and the second from 22 August 1960

through 26 February 1961.

Above, VA-36 A4D-2 launching from the USS Saratoga (CVA-60). (USN) Below, VA-36 A4D-2s 142870 and 142871 in 1961 while assigned to the USS Saratoga (CVA-60). The Roadrunner, tip tank markings, and tail stripes were black. (USN)



Attack Squadron Forty-Three (VA-43) was established on 1 July 1959 when VF-21 was redesignated VA-43. Initially, the squadron provided replacement pilot training for both the F11F-1 and A4D-1. VA-43 only trained eight Tiger pilots before retiring the F11F-1s. The squadron took on a new mission which was to take over the instrument training mission



Above, VA-43 A4D-1 in the hangar deck of the USS Saratoga (CVA-60) in 1960 during the Midshipman Cruise. This Skyhawk was painted like the squadron's F11F-1 Tigers which were retired by 1960. The lips were yellow and the mouth black. (USN) At right, A4D-1 139935 lands on the USS Antietam (CVS-36) during 1960. Tail stripes were blue. (USN) Bottom, VA-43 A4D-1 142145 at NAF Lakehurst, NJ. (Robert O'Dell via Swisher)





from VA-44. For this mission, TF-9Js were added to the squadron's complement of aircraft. A4D-2, A4D-2N (A-4C), and A-4E aircraft

were also assigned. In 1965 the Skyhawks were transferred out and on 1 June 1973 VA-43 became VF-43.

Above, VA-43 A4D-2 144923 at Kirtland AFB, NM, on 22 March 1963. Tail markings were blue. (William Swisher) Below, VA-43 A4D-2 launches from the USS Independence (CVA-62) during carrier trials. (USN via Mike Wilson)



VA-44 was established on 1 September 1950 as Fighter Squadron Forty Four (VF-44) with F4U Corsairs. The Corsairs were replaced with F2H-2 Banshees in December 1953. The squadron was redesignated Attack Squadron Forty Four (VA-44) on 1 January 1956 and received F9F-8 Cougars in April 1956. Tandem-seat F9F-8T Cougars began replac-

ing the single-seat versions on 23 January 1958. The two-place Cougars were utilized to fulfill the squadron's new mission as a fleet replacement training squadron for attack pilots. With receipt of A4D-1/2 Skyhawks in September 1958, the squadron took on the responsibility of training replacement Skyhawk for the East Coast squadrons. Skyraider

Above, VA-44 A4D-1 142167 during insecticide spraying tests in early 1960. The spray rig was capable of dispensing up to 300 gallons a minute. (USN) Bottom, VA-44 A4D-1 weapons display in 1958. From left to right: 150 gallon drop tank, 2,000 lb bomb, 250 lb bomb, 1,000 lb bomb, MK 12 Nuc, MK 8 Nuc, 300 gallon drop tank, MK 7 Nuc, Navpack, starter cart, rocket pod, 150 gallon drop tank. (Harry Gann)





training was started in 1959 with receipt of the AD-5/6. A4D-2Ns were received in February 1960. Eventually all Navy versions of the Skyhawk were utilized in the training syllabus. The A-4E arrived in October 1964, the TA-4F in August 1966, the A-4F in November 1969, and the A-4L in December 1969. VA-44 was disestablished on 1 May 1970.

In 1960, VA-44 A4Ds became crop sprayers. The squadron took

part in a two-year study into the feasibility of using Skyhawks in combat areas for pest control spraying. Prop-driven Skyraiders were deemed too vulnerable to ground fire at airspeeds of 175 mph, so the the A4D-2 was tested. Trials found that the Skyhawk could effectively deliver pesticides at an altitude of 150 feet and a speed of 500 mph from modified centerline stores. The tests were conducted under the direction of David Hayden at the Jacksonville

Above, four VA-44 A4D-1 Skyhawks in flight on 4 August 1958. Fuselage arrow and rudder were blue covered by white stars. (USN)

Vector Control Center and first utilized 85 gallon spray tanks.

Below, VA-44 A4D-1 142199 (412/AD) and A4D-2 142770 (439/AD) during carrier qualifications aboard the USS Independence (CVA-62) in February 1960. (Hal Andrews)



ATTACK SQUADRON FORTY - FOUR VA-44 "HORNETS"

Above, VA-44 A-4B 142825 at MCAS Yuma on 24 March 1964. The rudder tip was orange. (William Swisher) At left, VA-44 A-4B 142848 in 1964. (USN via Tailhook Association) Below left, VA-44 A-4B 142131 conducts carrier qualifications in 1964. (USN via Craig Kaston) Bottom, VA-44 A-4B 142798 at NAS Cecil Field on 23 May 1967. Side number was moved from the fuselage to the nose. (William Swisher)





Attack Squadron Forty Six was established on 24 May 1955 at NAS Cecil Field, FL. Their first aircraft was the Grumman F9F-5 Panther, which was replaced with the F9F-8 Cougar one month later. After two cruises with the Cougars, VA-46 began receiving the A4D-2 Skyhawks in

March 1958. These in turn were replaced with A4D-2Ns on 29 August 1960. In January 1967, the A-4E replaced the A-4C (A4D-2N) and due to heavy losses during a deck fire on the USS Forrestal (CVA-59) off the coast of Vietnam, the squadron reverted to the A-4B. These were replaced with Vought A-7Bs in November 1968 and A-7Es in August 1977. VA-46 was disestablished on 30 June 1991.

When the new A4D-2s were received, the squadron entered an accelerated training cycle to familiarize itself with the new aircraft in preparation for carrier qualifications and a Cuban deployment aboard the USS Intrepid (CVA-11) in September 1958. VA-46 deployed to the Mediterranean aboard the Intrepid from 13 February through 30 August 1959. During the cruise, the squadron

received maximum training in Special Weapons Delivery and minimum altitude navigation. Flight time was one of the major sources of pride at VA-46 with 3,000 hours being flown in the six-and-one-half month period. In one thirteen day period, 692 flight hours were flown. In addition, the squadron attained its second accident-free year since commissioning, and received a safety award from Commander Naval Air Force, Atlantic fleet.

A second A4D-2 Mediterranean deployment was made aboard the USS Franklin D. Roosevelt (CVA-42) from 28 January 1960 through 24 August 1960.

Below, VA-46 A-4B 144987 at NAS Alameda on 9 February 1968. (Smalley via Swisher) Bottom, VA-46 A-4B 144930 at MCAS El Toro on 23 March 1968. (Clay Jansson)



VA-55 was originally established as Torpedo Squadron Five (VT-5) on 15 February 1943. The squadron flew the Grumman Avenger throughout the war in the Pacific. VT-5 was redesignated Attack Squadron Six A (VA-6A) on 15 November 1946 and then Attack Squadron Fifty Five on 16 August 1948. The TBMs were exchanged for AD-1 Skyraiders on 18 June 1949. VA-55 flew the AD-1 and AD-4 during the Korean War and operated the AD-6 and AD-7 until November 1957 when they received the FJ-4B Fury. The A4D-2 arrived in March 1959 and the A4D-2N in January 1962. The A-4E was acquired in July 1963. Because of high losses of A-4Es in Vietnam, VA-55 reverted to A-4Cs in September 1966 after returning from a war cruise on USS Ranger (CVA-61). The A-4F replaced the A-4Cs in December



1967 and stayed with the squadron until its disestablishment on 12 December 1975.

VA-55 made two A4D-2 WestPac cruises while assigned to CVG-5 and the USS Ticonderoga (CVA-14). The first deployment was from 6 March 1960 through 11 October 1960. The second was from 10 May 1961 through 15 January 1962.

Above, VA-55 A4D-2 (508/NF) on the Ticonderoga's catapult during the squadron's 1960 cruise. VF-51 F4D-1 Skyraiders and VF-53 F3H-2 Demons are being respoated in preparation for launching VA-55 Skyhawks. (USN) Below, VA-55 A4D-2 142931 at MCAAS Yuma, AZ, on 3 December 1959. Fin tip was green and white checks, rudder was grey. (William Swisher)





Attack Squadron Fifty-Six was established on 4 June 1956 at NAS Miramar, CA. The squadron's first aircraft was the Grumman F9F-3 Panther, which was replaced one month later with F9F-8B Cougars. VA-56 made one cruise aboard the USS Bon Homme Richard with the Cougars from 12 July through 9 December 1957 before transitioning to FJ-4B Fury aircraft on 29 May 1958. A4D-1 Skyhawks replaced the

FJ-4Bs in December and the A4D-2 replaced the -1s in April 1959. Three deployments aboard the USS Ticonderoga were made with the A4D-2s before they were replaced with A-4Es on 15 July 1963. In July 1966 A-4Cs replaced the A-4Es for one cruise with the squadron receiving A-4Es again in August 1967. In January 1969 Vought's A-7 Corsair replaced the Skyhawks. The squadron was disestablished on 31 August 1986.

By the fall of 1959, the squadron reached such a state of readiness in their A4D-2s that they earned the honor of representing COMNAVAIR-PAC in the November weapons meet at Yuma, AZ. The squadron edged the COMNAVIAIRLANT entry VA-12, in a very close duel and became the Navy "Top Gun" in the light jet attack category.

The following year found Attack Squadron Fifty Six and CVG-5 embarked aboard the USS

Ticonderoga (CVA-14) for an extended tour of the Western Pacific. While deployed, the squadron was notified that they had won the COMNAVAIR-PAC Individual Battle Efficiency Award for fiscal year 1960. At the same time, CVG-5 won the COMNAVAIRPAC Battle Efficiency Award for the best Air Group team that same year. During the cruise, the squadron accumulated nearly 2,700 accident free flight hours and 958 carrier landings. In October, the squadron returned to NAS Miramar.

Once at Miramar, the squadron started an intensive training cycle in both weapons delivery and shipboard operations. During competitive exercises the squadron was awarded 18

Below, VA-56 A4D-2 144980 with a blue T-63 shape during the December 1959 weapons meet at Yuma. Forward part of the rudder was grey and the rudder tabs were orange and white. (Harry Gann)



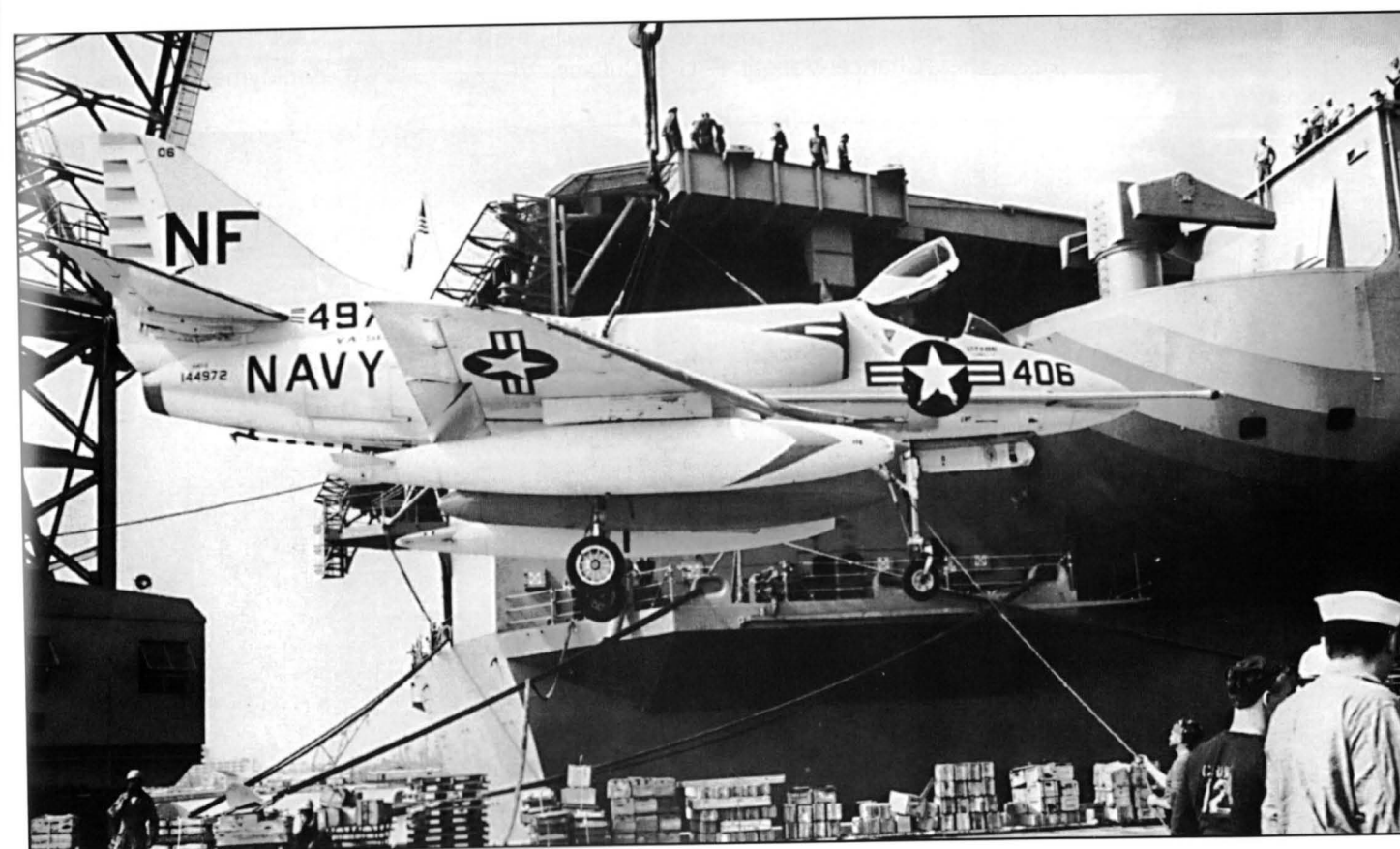
individual "E"s. On 10 May 1961, VA-56 deployed again to the Western Pacific. Culminating with CDR Hoover's (CO) landing on 27 December 1961, the squadron had flown 2,900 hours and made 1,100 carrier landings. On 14 January 1962, the squadron returned to CONUS and its new homeport of NAS Lemoore, CA. During the cruise, VA-56 had surpassed 10,000 accident-free flight

hours and 4,200 carrier landings over a 33 month period.

VA-56 fired its first Bullpup on 22 May 1962 and left on an "Around-the-Horn" cruise aboard the USS Constellation (CVA-64) on 16 July 1962. The squadron returned to NAS Lemoore on 15 September 1962. A third A4D-2/A-4A cruise aboard CVA-14 took place from 3 January through

Above, VA-56 A4D-2 144986 in temporary storage at NAS Alameda on 14 July 1962. (Larry Smalley via William Swisher) Below, VA-56 A4D-2 144972 being hoisted aboard the USS Ticonderoga (CVA-14) for its 1961 cruise. Rudder was white with orange trim. Drop tank trim was orange too. (USN)

15 July 1963.



ATTACK SQUADRON SIXTY - FOUR, VA-64 "BLACK LANCERS"



Attack Squadron Sixty-Four was commissioned at NAS Oceana, VA, on 1 July 1961 with A4D-2N Skyhawks. In December, VA-64 received four A-4Bs for use as day interceptors by detachment 48 on board USS Wasp on 17 February 1962. The de'ts designation was changed to Det 18B in April, while under the command of LCDR E. D. Herbert. The remaining squadron pilots deployed aboard the USS Independence (CVA-62) from 18 October through 18 November 1962 in support of the Cuban missile quarantine. On 18 November, the

squadron took part in the three month shakedown cruise of the USS Enterprise (CVAN-65).

Below, VA-66 A4D-2 142760 over the Med in 1959. Fuselage, drop tanks and rudder markings were blue. The squadron insignia was included in the fuselage lightning bolt. (USN) At right, VA-66 A4D-2 142825 at NAS Floyd Bennett Field on 2 July 1960. (William Larkins) Below right, VA-66 A4D-2 142824 is hoisted aboard the USS Intrepid (CVA-11) in August 1960. (USN)

ATTACK SQUADRON SIXTY - SIX, VA-66 "WALDOMEN/WALDOS"



VA-66 began life when Fighter Squadron Six Seventy One (VF-671) was re-established on 1 February 1951 at NAS Atlanta. The squadron's F4U Corsairs were replaced with F8F Bearcats after VF-671 transferred to NAAS Oceana. F9F-5 Panthers replaced the Bearcats in late 1952. On 4 February 1953, VF-671 became Fighter Squadron Eighty One (VF-81). In May 1954, VF-81 became the first fleet squadron to equip with the Chance Vought F7U-3 Cutlass. VF-

81 was redesignated VA-81 on 9 April 1955. F9F-8 Cougars began replacing the Cutlasses in September 1956 and in March 1958 the squadron transitioned to the Douglas A4D-1 Skyhawk. The A4D-2 arrived in June 1959 and was replaced by A4D-2Ns in March 1961. The Skyhawks were replaced with Vought A-7E Corsairs in October 1970 and was disestablished on 31 March 1987.

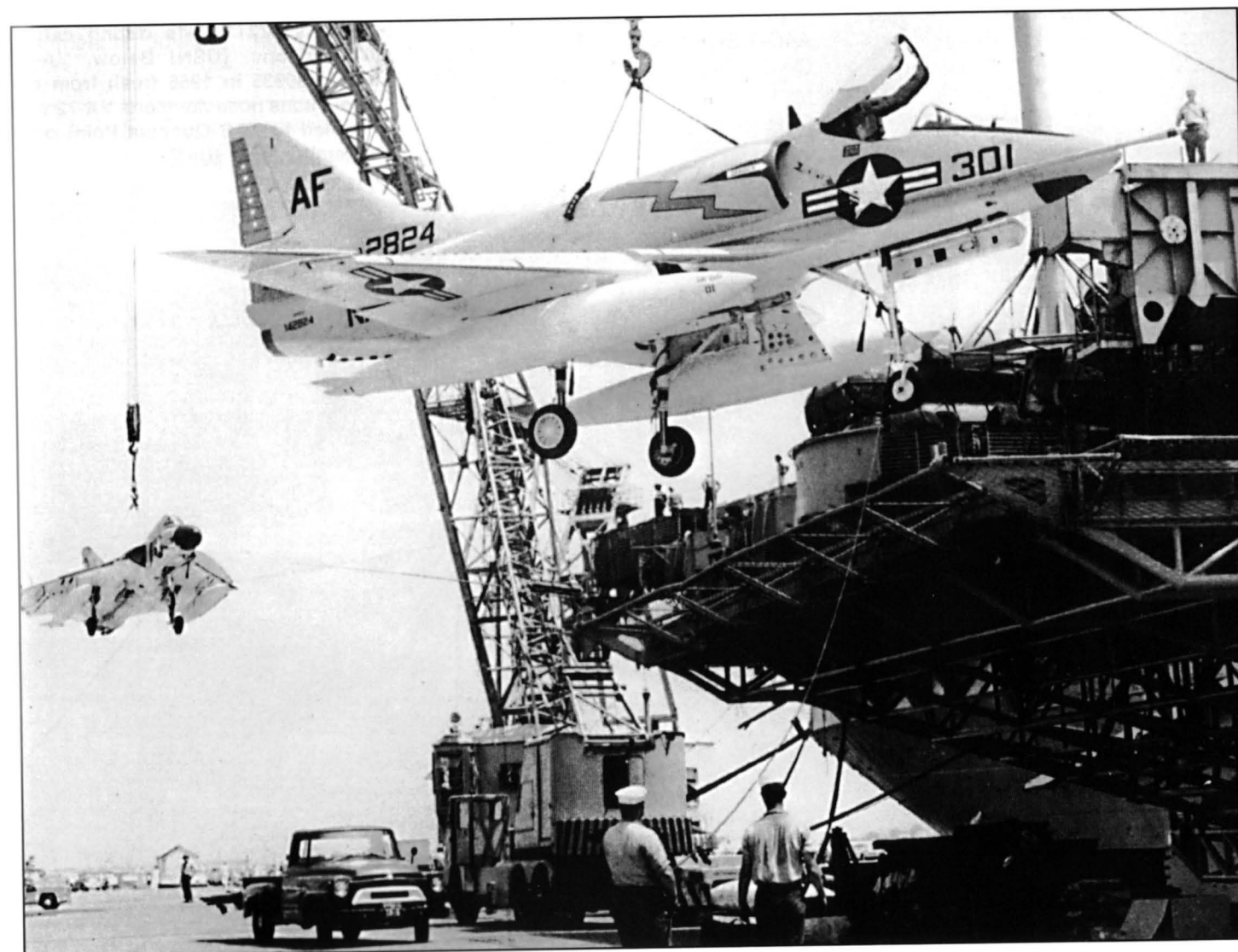
Two deployments were made



with the A4D-2, both aboard the USS Intrepid (CVA-11). The first was a Mediterranean cruise from 13 February through 30 August 1959.

During this deployment CDR W. J. McNeil Jr. (CO) was killed during a practice carrier controlled approach. The second cruise was also to the

Med aboard CVA-11 from 4 August 1960 through 17 February 1961.





Attack Squadron Seventy-Two was established as Fighter Bomber Squadron Eighteen (VBF-18) on 25 January 1945. VBF-18 was originally equipped with F6F-3/5 Hellcats. On 10 August 1945, they re-equipped with F8F-1s and took on the nickname Bearcats. VBF-18 was redesignated VF-8A on 15 November 1946. Then, on 28 July 1948, VF-8A became VF-72. In 1950, the squadron adopted the nickname

Hawks. The squadron flew F8F-1s, -1Bs, and -2s before converting to Grumman F9F-2 Panthers on 16 March 1951. Then, on 3 January 1956, they became Attack Squadron Seventy-Two. The squadron was flying F9F-5s when they transitioned to A4D-1 Skyhawks in September 1956. On 12 February 1958, the squadron traded-in their A4D-1s for A4D-2s. These, in turn, were replaced with A4D-2Ns in March 1961. The A-4E

took over in May 1964, but the squadron reverted back to the A-4B in March 1967. The Vought A-7 Corsair

Above, VA-72 A4D-1s during carrier qualifications. (USN) Below, VA-72 A4D-1 139935 in 1956 fresh from the factory sans nose numbers. VA-72 was assigned to NAS Quonset Point on 3 September 1957. (USN)



VA-72 CARRIER TRIALS

replaced the Skyhawks in January 1970, and were flown until disestablishment on 30 June 1991.

Above, VA-72 A4D-1 139940 flies past the carrier's bridge. (USN) At right, VA-72 A4D-1 139992 (00/L) launches from the angled deck. (USN) Bottom, VA-72 A4D-1 139944 after trapping during FIP carrier trials. (USN)





VA-72 was the first fleet squadron to be assigned the Skyhawk. The first A4D-1s arrived on 9 September 1956 and VA-72 was responsible for the Skyhawk's Fleet Introduction Program (FIP). With the help of VA-72, the A4D-1 was officially declared operational on 26 October 1956.

VA-72 made four cruises with the A4D-2 (A-4B). These were from 2 September 1958 through 12 March 1959 aboard CVA-15; from 4 August 1960 through 3 March 1961 aboard CVA-62; from 24 August 1967 through 19 May 1968 aboard CVA-42; and from 7 January 1969 through 29 July 1969 aboard CVS-38.

Above left, VA-72 A4D-2 144978 with blue hawk on nose, and blue fuselage and rudder trim. (USN) At left, three VA-72 A-4Bs return to the USS F. D. Roosevelt (CVA-42) in 1967. Due to attrition in Vietnam, VA-72 turned in its A-4Es for A-4Bs to conduct its Mediterranean cruises in 1967-1969. Aircraft trim was blue. (USN) Bottom, VA-72 A-4B 142937 disengages the arresting wire after landing on the USS Shangri-la (CVS-38) in 1969. Rudder and tail markings were green. (USN)

ATTACK SQUADRON SEVENTY - SIX, VA-76 "SPIRITS"



Attack Squadron Seventy Six (VA-76) was commissioned on 1 June 1955 at NAS Oceana, VA, with the primary mission of atomic weapons delivery. The F2H-2 Banshee was flown until 6 January 1956 when the first F9F-8 Cougar arrived. On 28 May 1959, the first A4D-2 Skyhawk was delivered to VA-76. On 30 June 1959, CDR Chevront delivered the last F9F-8 in the fleet to the Reserve Command. The A4D-2N (A-4C) arrived on 2 March 1962 and the squadron was disestablished on 30 September 1969.

The new A4D-2s were assigned to CVW-6 and on 12/13 September 1959 the squadron carqualed aboard the USS Independence. A second carrier qualification period was conducted from 29 November through 4 December 1959. A training deployment was made to NAS Leward Point aboard the USS Intrepid from 19 January through 4 February 1960. In April the squadron took part in the Operational Readiness Inspection aboard Intrepid.

The squadron deployed aboard Intrepid from 4 August 1960 through 17 February 1961. In September, VA-76 participated in Operation Flashback / Setback with other units of the Sixth Fleet. Simulated atomic strikes and close air support missions were flown over targets in the NATO countries of Greece and Italy. On return to CONUS, VA-76 changed home bases from Norfolk to Oceana.

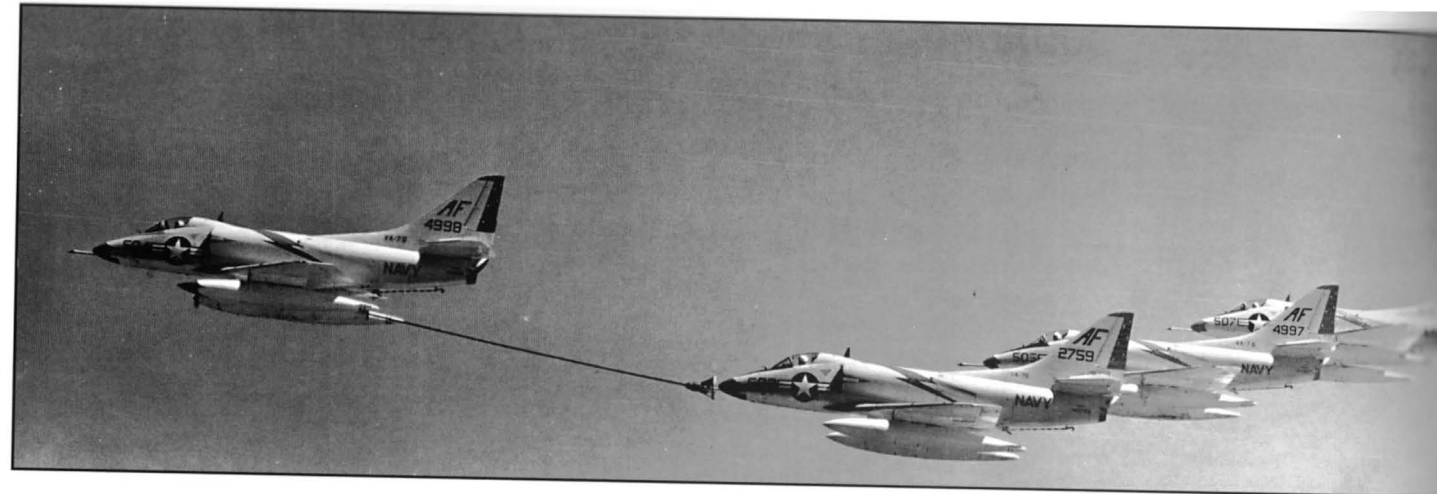
On 3 August 1961, the squadron deployed again to the Mediterranean



aboard the USS Intrepid (CVA-11). Ports of call were Barcelona, Cannes, Genoa, Naples, Corfu, Athens, and Rhodes. During September, VA-76 participated in Operations Checkmate One and Two flying sorties into

Above, bomb-laden A4D-2 waiting for its practice bombing mission in the MED in 1961. (Gordon Williams) Below, green-nosed VA-76 A4D-2 is prepared for hoisting aboard the Intrepid for its 1960 - 1961 Med cruise. (USN)





Italy and Turkey. Furthermore, VA-76 established an Intrepid record for total flight hours for an attack squadron in one month by logging 729.4 hours in September. The squadron returned to NAS Oceana on 28 February 1962. During the cruise the squadron flew over 3,100 day hours and over 750 night hours, all accident free. The squadron pilots totaled over 2,000 arrested landings, qualifying six centuries and five double centuries.



Above, VA-76 tanker A4D-2 refuels shipmates returning from a mission over the Med. (USN) At right, VA-76 A4D-2 142846 landing aboard Intrepid in 1961. Nose, drop tank, fuselage and rudder markings were green. (USN) Below, 142846 is directed to a forward parking slot after trapping on CVA-11. (USN)



ATTACK SQUADRON EIGHTY - ONE, VA-81 "CRUSADERS"



VA-81 was originally established as VA-66 on 1 July 1955 and redesignated that same day as Fighter Squadron Eighty One. The Crusaders of VF-81 were assigned the mission of special weapons delivery in their Grumman F9F-8 and F9F-8B Cougars. On 4 March 1959, VF-81 was re-equipped with A4D-2 Skyhawk aircraft. On 1 July 1959, VF-81 was redesignated Attack Squadron Eighty One. The squadron



Above, VA-81 1960 cruise photo (USN), Below, VA-81 A4D-2s in flight in 1961. Rudder and fuselage trim was orange. Bottom to top: A4D-2 144930 406/AJ, 144912 408/AJ, 144918 404/AJ, and 144922 407/AJ. (USN)





received A-4Es on 3 April 1963 and was renamed the Sunliners. A-4Cs replaced the A-4Es in September 1967 and the Vought A-7E was acquired in May 1970. VA-81 was

redesignated VFA-81 on 4 February 1988 and received the F/A-18C Hornet on 30 March 1988.

By the time the first Skyhawk

Above, VA-81 A4D-2 with Bullpup prepares to launch from Forrestal in 1961. (USN) Below, A4D-2 144930 launching from the USS Essex (CVS-9) in 1961. A Sidewinder missile is mounted on the right wing. (USN)



was received in March 1959, all squadron personnel had been trained in type at VA-44. CDR Heyworth flew the first hop in the squadrons new aircraft on 23 March 1959, and by the 26th, the total complement of twelve A4D-2s had arrived.

A complete transition to the A4D and weapons proficiency was achieved in the next few months with initial carrier qualifications being conducted aboard the USS Independence (CVA-62) in July. A six week training cruise to Cuba aboard the USS Forrestal (CVA-59) starting in August. The remainder of 1959 was spent alternating operations between NAS Oceana and Forrestal. During this time VA-81 took part in the WESEG Exercises.

Under the command of CDR W. P. Kiser, the squadron departed for a Mediterranean deployment aboard Forrestal. The cruise lasted from 28 January through 31 August 1960. During the seven month deployment, the squadron flew over 3,000 hours and logged over 1,500 carrier landings. Upon returning to the States in September, VA-81 again transferred operations to NAS Oceana. Her efforts for the past year hadn't gone unnoticed. A certificate of commendation from COMNAVAIRLANT and the Chief of Naval Operations Safety Award for 1960 went to VA-81 in recognition of its accident free performance for fiscal 1960, 293 days of



which were spent on-board Forrestal.

In November 1960, it was back aboard Forrestal for carrier qualifications in preparation for another Med

Above, VA-81 Det 45 A4D-2s 144930 and 144927 aboard the USS Essex (CVS-9). Note Sidewinder rails under the wings. (via Burger) Below, A4D-2 144922 after trapping on the USS Forrestal. (USN via Barry Miller)



cruise which took place from 9 February 1961 through 25 August 1961. Early in the cruise, VA-81 was honored by having one of the squadron pilots make the 50,000th arrested landing aboard CVA-59. In the months that followed, the Crusaders flew a total of 3,900 hours with over 1,800 arrested landings, including 856 hours in June alone.

In October 1961, following its return to Oceana, VA-81 sent a detachment of four aircraft and forty-five men aboard the USS Essex (CVS-9) for a four-month cruise in the North Atlantic. The British Isles, Holland, Germany and Spain were the countries visited during the deployment. VA-81 was the first A4D squadron to deploy with an Anti-Submarine Carrier, and the first A4D unit to employ Sidewinder missiles operationally. During the absence of VA-81 Det-45, the parent squadron conducted operational training at NAS Oceana in preparation for their third A4D-2 cruise.

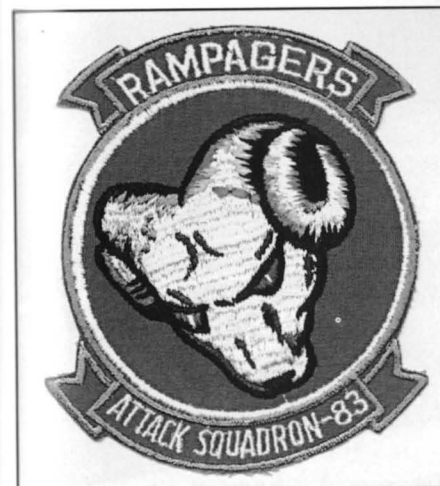
In January 1962, VA-81 took part in a shakedown cruise aboard the Forrestal to Cuba. Both the parent group and the detachment returned from their respective cruises in March, and the squadron was again

reunited. In April, the Forrestal and its Air Group participated in an air demonstration for President Kennedy, and other dignitaries. The squadron then deployed to the Caribbean for a visit to Trinidad and participated in LANTPHIBEX 1-62, an amphibious operation requiring close air support. On 10 May, VA-81 returned to Oceana for an intensive training period prior to an Operational Readiness Inspection Cruise on 18 June 1962. From 23 June through 12 July the squadron cruised to New York. The next few weeks were spent in hectic preparation for the coming Mediterranean deployment. On 3 August VA-81 left Norfolk aboard Forrestal, her home for the next seven months.

Crossing the Atlantic, VA-81 participated in RIPTIDE III, a NATO exercise with the British, French, and Portuguese. During the exercise the squadron cross-decked with British carriers. In the Med the Crusaders took part in MEDLANDEX 4-62, a close air support exercise on 23 August, LAFAYETTE, a conventional Strike X with the French on 7 September and Indian Summer, a nuclear Strike X with Spain. On 12 November 1962, VA-81 pilots fired Bullpup missiles at Avgo Nisi, a small

island north of Crete. Two weeks later the Crusaders were involved in POKER HAND, an anti-air warfare exercise with the British carrier Hermes. On the 7th and 8th of December, the squadron participated in LAFAYETTE III, making attacks on two French cruisers and making low level attacks on French land targets. MEDLANDEX 6-62 on the 9th of January found the squadron at Porto Seudo on the southern tip of Sardinia, participating in a close air support exercise in support of amphibious landings. A nuclear and conventional exercise, Operation POOP DECK, was conducted on 22 January utilizing large attack units to simulate strikes on French land targets. On the 18th of February, VA-81 commenced turnover with VA-64 aboard the USS Enterprise and outchopped on the 20th completing a very successful seven month cruise. During this cruise the squadron flew a total of 3545 hours and made 1815 arrested landings.

Below, Bullpup equipped VA-81 A4D-2s took place in an airpower demonstration for John Kennedy on 14 April 1962. (USN)



Originally a reserve squadron at NAS Squantum, VF-916 was called to active duty on 1 February 1951, during the Korean War. The squadron's F4U-4 Corsairs were replaced with F9F-2 Panthers in December 1951 and with F8F-2 Bearcats in May 1952. Panthers were

again acquired in the form of F9F-5s in September 1952 and the squadron was redesignated VF-83 in February 1953. The squadron introduced the F7U Cutlass to the fleet in August 1954 and was redesignated Attack Squadron Eighty Three on 1 July 1955. The A4D-1 Skyhawk arrived in March 1957, but was quickly replaced with the A4D-2 in December of that same year. VA-83 flew the -2 until 14 September 1960 when the A4D-2N arrived. A-4Es replaced the A-4Cs in May 1963, but the A-4Cs returned from August 1967 through 19 June 1970, before being replaced by the Chance Vought A-7E. On 3 March 1988, VA-83 became Strike Fighter Squadron Eighty Three (VFA-83) and transitioned to the F/A-18C on 25 April.

CDR J. L. Holloway III was in command when the Skyhawks were

received and was responsible for turning VA-83 into an effective nuclear delivery force. Ten aircraft deployed to NAS Guantanamo Bay, Cuba, from August through October 1957 for advanced weapons training. All pilots had qualified in over-the-shoulder and loft bombing during this period of time. After FCLP and advanced training at Oceana, they departed to NAS Cecil Field, FL, and the USS Essex for carrier qualifications. In November, all pilots qualified in both day and night landings.

During the carquals LTJG Tom Anderson taxied over the forward end

Below, VA-83 A4D-2 142134 lands aboard the USS Essex (CVA-9) after a reconnaissance flight over Lebanon in 1958. (USN)





Above and below, VA-83 A4D-2 142130 crashes into the barrier after it lost its right main landing gear wheel and tire on landing aboard the USS Essex. Note the squadron insignia forward of the pilot's windscreen. The vertical fin stripe was blue. (USN) At left, LTJG Tom Anderson's aircraft being recovered after floating for two hours. He had taxied over the forward end of the angle deck while coming out of the arresting gear. (USN)



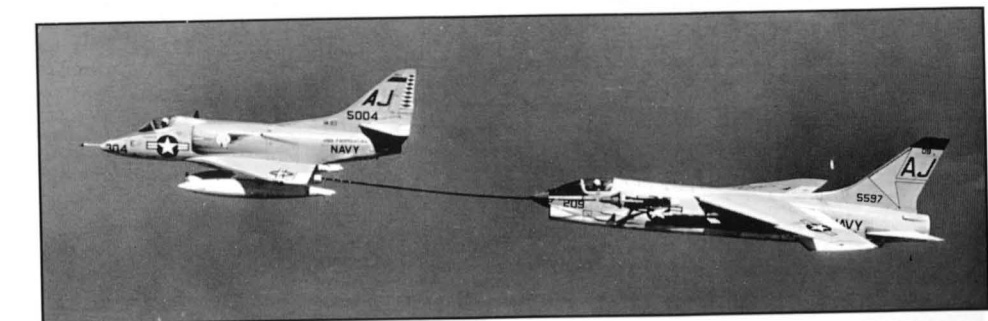
of the angle deck while coming out of the arresting gear and hit the water in an inverted attitude. He pulled his "ditching handle", cleared the plane, and surfaced to be picked up almost immediately by the Essex helicopter, wet but uninjured. The Skyhawk, with a light fuel load and two empty drop tanks, floated until the qualification period had been completed. The Essex returned to the floating aircraft and sent a motor whaleboat to tow the plane alongside the ship. Once alongside an aviation crane hoisted the A4D-1 back aboard some two hours after hitting the drink.

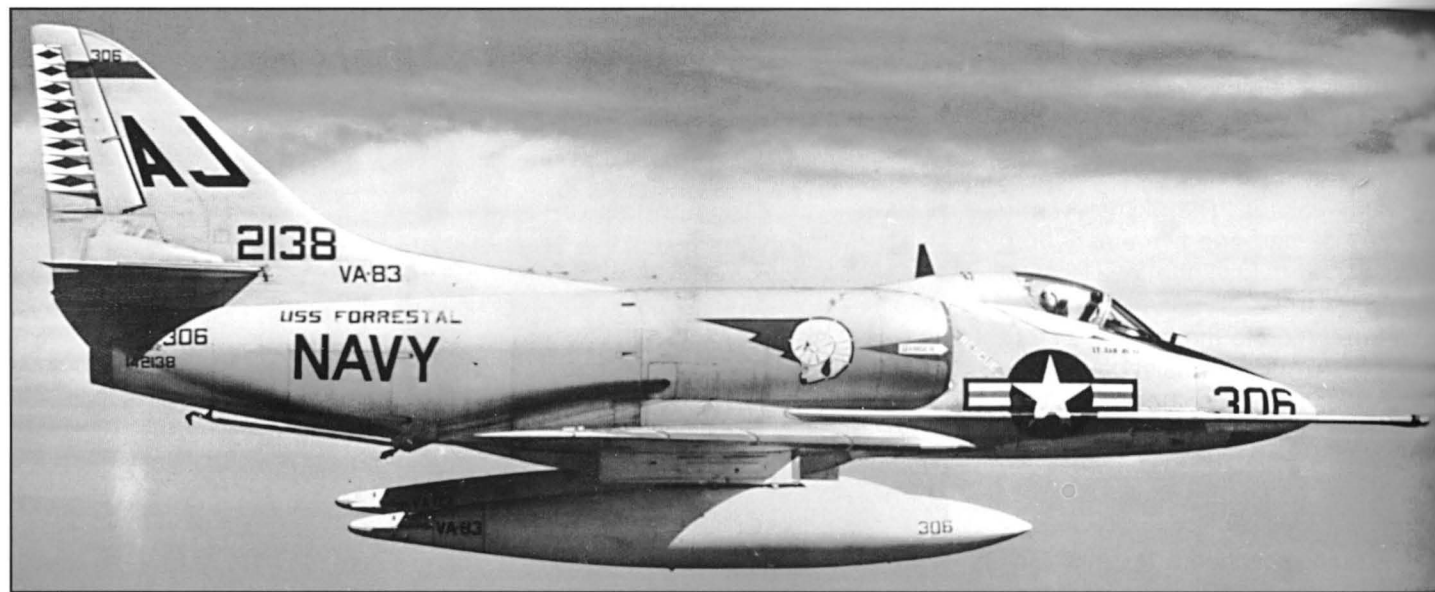
Training reached a fevered pitch in December 1957 as VA-83 transitioned to the A4D-2 and prepared to deploy aboard the USS Essex in January 1958. During this cruise, which lasted eleven months, VA-83 participated in the police action in Lebanon. The squadron flew more than 500 sorties during the US Marine Corps landings in support of the Lebanese government. During two of the reconnaissance sorties, two VA-83 Skyhawks were hit by small arms fire. The Rampagers' involvement in the Lebanon Crisis was from July through August 1958.

In September 1958, after exiting through the Suez Canal, the Essex and VA-83 joined the Seventh Fleet in patrolling the coast of Formosa during the shelling of the Quemoy Islands. The squadron returned home in December 1958.

In June 1959, the squadron participated in Operation Inland Sea, the opening of the Saint Lawrence Seaway, and shortly thereafter joined the USS Forrestal as a part of the ship's permanent Air Group, Air Group Eight. In late September, the

At top, VA-83 1958 squadron photo (USN) Above right, VA-105 Skyraider refuels VA-83 A4D-2 142133 after a recon over Lebanon in 1958. (USN) Above right, VA-83 A4D-2 refuels a VF-102 F8 Crusader in 1960. (USN) At right, VA-83 A4D-2 142697 taxis forward on the USS Forrestal (CVA-59) in 1960. (USN)





squadron participated in the Atlantic Fleet Weapons Meet, placing second in the competition. On 28 January 1960, the squadron boarded the USS Forrester for a Mediterranean cruise which lasted until early September.

Above, VA-83 A4D-2 142138 from the USS Forrester on 25 April 1960. Tail stripe, rudder diamonds and Rampagers trim was blue. Rams head was yellow. (USN) At left, VA-83 A4D-2s 142128 (309/AJ), 145008 (305/AJ), 145001 (301/AJ) and 145003 (303/AJ) in April 1960. Below, VA-83 A4D-2 142138 traps on Forrester on 4 November 1959.



On 1 February 1951, Reserve Fighter Squadron VF-921 was called to active duty in response to the Korean War. The squadron flew the F4U-4, F8F-2 and F9F-5 before being redesignated VF-84 on 4 February 1953. On 1 July 1955, the squadron was redesignated Attack Squadron Eighty Six. As VA-86 they flew the F7U-3M until 26 May 1957, when they were replaced with the A4D-1 Skyhawk. In December 1957, the A4D-2 was acquired and in September 1962 the A4D-2N/A-4C was received. These were replaced

with A-4Es on 28 April 1964. In March 1967, the squadron received the Vought A-7A Corsair II and on 8 February 1969, VA-86 was redesignated VFA-86 when they transitioned to the F/A-18C Hornet.

Below, VA-86 A4D-2 142683 on 22 August 1957 (ground view), and in flight in 1959. A battle efficiency "E" had been added to the fuselage side. "LCDR Sam Borex" is painted below the canopy rail. (SDAM/USN)





ATTACK SQUADRON EIGHTY - SIX, VA-86 "SIDEWINDERS"

The squadron made four cruises with the A4D-2, one aboard the USS Randolph (CVA-15) and three aboard the USS Independence (CVA-62). The Randolph deployment was from 2 September 1958 through 12 March 1959. The three "Indy" deployments were from 4 August 1960 through 3 March 1961, 4 August 1961 through 19 December 1961, and from 19 April 1962 through 27 August 1962.



At top, VA-86 A4D-2 144978 on-board the USS Independence (CVA-62) during its 1962 cruise. The aircraft is loaded with rocket pods. Rudder trim was orange and the Sidewinder on the fuselage side was orange and brown. (USN) At left, VA-86 A4D-2 starts its launch cycle from the USS Independence in 1960. (USN via Tailhook Association) Below, four VA-86 A4D-2s return to the USS Randolph (CVA-15) on 4 September 1958. Lead aircraft 142124 401/AG is "Buddy Tanking" its sister aircraft 142687 210/AG. The other two aircraft are 142678 412/AG and 142423 407/AG. (USN)



ATTACK SQUADRON NINETY - THREE, VA-93 "BLUE BLAZERS"



VA-93 was originally established as Fighter Squadron Ninety Three (VF-93) on 26 March 1952. VF-93 was initially equipped with FG-1D Corsairs and switched to F9F-2 Panthers in September 1953 and then obtained F9F-8 Cougars in January 1955. On 15 September 1956, VF-93 was redesignated Attack Squadron Ninety Three (VA-93) and on 26 November 1956 received the A4D-1 Skyhawk.

VA-93 was the first West Coast fleet squadron to receive the A4D-1 Skyhawk and after work-up on the type, they deployed aboard the USS Ticonderoga (CVA-14) in September 1957. The "Tico" cruise lasted through 25 April 1958.

After trading up to the A4D-2 in May 1958, VA-93 once again deployed to the Western Pacific. This time it was aboard the Super Carrier USS Ranger (CVA-61). After extensive weapons training and carrier work-ups, VA-93 departed on its Ranger cruise from 6 February 1960 through 30 August 1960. On this cruise, five VA-93 pilots attained their 1,000 landing. The squadron also set the record for jet hours flown per month and captured the Navy carrier jet distance record for over-water

At right, VA-93 A4D-1s over San Francisco Bay, CA, in 1956 with single letter "N" tail code. (USN)





flight. Two pilots won the rare honor of being selected to participate in the "Flying Brothers" program of inter-service competition held at Clark AFB, PI, from March to May 1960. In 1960, the squadron's outstanding safety record contributed to Air Group

Niness winning the Chief of Naval Operations Safety Award.

The A4D-2 was replaced with the A4D-2N on 1 September 1960. Ironically, the squadron received a complement of A-4Bs (A4D-2s) on 15



October 1963 for use on the USS Bennington (CVS-20). The A-4Bs were retired for a second time in 1965 and the squadron's A-4Cs were replaced by the A-4E in September 1966.

When VA-93 reverted back to A-4Bs in October 1963 it was to form VA-93 Det Q. Det Q deployed aboard the USS Bennington in a 1964

Above, VA-93 A4D-1s pass Mount Fuji, Japan, on 28 October 1957. Tail band and fuselage markings were blue. (USN) At left, VA-93 A4D-1 139959. The blue 9 on the fuselage signified Air Group Nine. (via Craig Kaston) Below, VA-93 A4D-1 139947 at NAS Alameda on 17 May 1958. (W. T. Larkins via William Swisher)



Above, VA-93 A4D-2 142814 at San Francisco International Airport on 18 September 1960. Blue trim runs up the leading edge of the fin. (Smalley via Swisher) At right, Bennington-based VA-93 A-4B on 4 July 1964 at Kobe, Japan. Fuselage trim believed to be black and rudder tabs red. (Ryosuke Nakajima) Below, three VA-93 A4D-2s from the USS Ranger in 1960. (USN)



WestPac cruise. While aboard, it was the Det's responsibility to provide limited fighter protection for the ship. For this purpose the "Bravos" were equipped with two Sidewinders and two 20mm guns.





Fighter Squadron Ninety Four (VF-94) was established on 26 March 1952. VF-94 flew F4U Corsairs, FJ-3 Furyies, F9F-8B Cougars before being redesignated Attack Squadron Ninety Four on 1 August 1958. As VA-94, the squadron transitioned to the FJ-4B Fury. In January 1959, A4D-2s replaced the Fury Bravos. Then in September 1960, A4D-2Ns were acquired to replace the A4D-2s. On 23 October 1967, the A-4E replaced the squadron's A-4Cs and on 16 November they received their first "Super Echo". The squadron transitioned to the Vought A-7E Corsair in January 1971. The Corsairs were replaced with F/A-18C Hornets in May 1990 and the squadron was redesignated VFA-94 on 28 June 1990.

After receiving the A4D-2s in January 1959 the squadron deployed



to Fallon, NV, during the last two weeks of January. During the two weeks all pilots completed the fam stage in the new aircraft. In February 1960, VA-94 departed for a WEST-PAC cruise as part of CVG-9 aboard the USS Ranger (CVA-61). The squadron's first ORI was held in Hawaii in late February and was completed with a grade of excellent. The squadron flew 520 hours the first month and continued the pace until

CO, CDR D. G. Patterson, and all but two pilots were Ranger centurions with six weeks still left in the cruise. The cruise was completed in late August.

Above, Class of 1960, VA-94 pilots on CVA-61. (USN) Below, VA-94 A4D-2 144877 at Travis AFB in 1960. Fin tip was orange. (Steve Brown) Bottom, VA-94 A4D-2 144979 being refueled by VA-93 142749 over the Pacific. (USN)



Attack squadron Ninety Five (VA-95) was reactivated with the recommissioning of Air Group Nine on 26 April 1952. Initially equipped with F6F-5 Hellcats, the squadron transitioned to AD Skyraiders in May and continued to employ various versions of the aircraft until 15 July 1965 when A-4C Skyhawks were received. A-4B Skyhawks replaced the C models in December 1965 and VA-95 became one of the few squadrons to deploy the Bravo model to the waters off Vietnam. The squadron made two cruises with the A-4Bs before receiving A-4Cs in September 1968. They made one cruise with the C before being disestablished on 1 April 1970.

In preparation for transitioning to the jet-powered Skyhawks, the Spad

pilots were shoved into the back seat of VA-127's TF-9J Cougars for jet familiarization and after several flights and ground school were ordered on their solo flights. Further training was conducted by VA-125 and in August 1965, with an average 30 A-4 flight hours per pilot, the squadron was left to its own training. Throughout August and September, VA-95 concentrated on weapons and low level navigation training.

In October they deployed to MCAS Yuma for more weapons training. They flew 554 day and 183 night hours for a total of 737 hours in the 21-day period. Because of a heavy PAR schedule, these figures were achieved with an average of seven aircraft. The maintenance department

Above, VA-95 A-4B 142900 at NAS Lemoore, CA, on a cross-country from NAS Norfolk, VA, on 21 March 1966. The pilot's name on the nose was LCDR C. L. Sagehorn. The lizard on the fuselage and drop tanks were dark green. (William Swisher) Below, The pilots of VA-95 pose aboard the USS Intrepid in 1966. All the helmets were painted as Knights helmets and each was numbered to correspond to the aircraft number. (USN)

had provided an 85% availability.

November and December 1965 were spent back in Lemoore, doing more weapons work and preparing for carquals. They deployed aboard the USS Kearsarge (CVS-33) to





become both day and night carrier qualified. In February 1966, VA-95 joined her new Air Wing, Air Wing Ten aboard the USS Intrepid (CVS-11), homeported in Norfolk, VA. Throughout the month of February they operated in the Western Atlantic from the

decks of the Intrepid.

On 4 April the USS Intrepid departed CONUS for deployment to WESTPAC as a Dixie Station carrier off the coast of South Vietnam. During her first period on the line, 15



May through 15 June 1966, VA-95 flew 710 combat sorties for 1250 combat hours. Her pilots earned a total of 53 Air Medal Awards.

During the return for the second line period they participated in Operation Blue Sky on 4 July and Operation New Boy on 6 July. These

Above, VA-95 A-4B 142833 en-route to Vietnam with a 2,000 pound bomb under each wing. (USN) At left, VA-95 A-4B 142833 after return from Vietnam on 18 March 1967 at NAS Lemoore with 500 pound Snakeyes on the centerline and a single 750 pound bomb on each wing pylon. (Harry Gann) Bottom, VA-95 A-4B 142679 armed with Sidewinders at Lemoore on 18 March 1967. 26 mission marks were painted under the lizard on the fuselage side. (William Swisher)



were air defense exercises conducted with air defense forces of Nationalist China and the republic of the Philippines respectively. From 8 July until 4 August the Intrepid once again engaged in Dixie Station operations. During this period the pilots of VA-95 flew 696 strike sorties for 1216 combat hours. On 4 August the Intrepid launched her last Dixie sta-

tion mission and steamed toward Yankee station. VA-95 flew missions in I and II Corps areas of South Vietnam. In her first four days on Yankee Station, the squadron flew 91 armed reconnaissance sorties for 151 combat hours. These four days

served as a period of familiarization for the Intrepid pilots in tactics against the more sophisticated anti-air-warfare capabilities of the North Vietnamese.

The third line period was from 1

Above, when VA-95 returned from the Intrepid cruise to Vietnam they put in at NAS Los Alamitos, CA. 142897 (510/AK) and 142905 (509/AK) are in the foreground. VA-15 144918 also from the Intrepid can be seen in the background. (Harry Gann) At right, VA-95 A-4B 142781 at NAS Alameda, CA, in May 1967 being overhauled. The aircraft carries 33 mission marks on the fuselage side. (Smalley via Swisher) Below, VA-95 A-4B 142783 with LCDR Shea painted on the nose. (Swisher)





September through 24 September 1966. Back on Yankee Station. VA-95 participated in major multiple carrier air strikes against Than Hoa and Ninh Binh. In all, the squadron pilots flew 448 armed reconnaissance and strike sorties for 644 combat hours.

The forth line period was from 2 October through 18 October 1966, again at Yankee Station. VA-95 flew 238 armed reconnaissance and strike sorties for 333 combat hours. During this period, the squadron struck the industrial and rail center of Phu Ly, just 30 miles south of Hanoi. After this

line period the lizards returned home.

A second cruise was made with the A-4Bs, this time aboard the USS Shangri-La (CVS-38). The deployment was to Mediterranean waters from 15 November 1967 through 4 August 1968 as part of Air Wing Eight.

Above, VA-95 A-4B 144985 in 1967 with a practice Bullpup under the wing. The Bullpup was blue and white. (Harry Gann) At left, VA-95 A-4B 142905 at NAS Alameda on 23 August 1968. For the Shangri La cruise, the "AJ" tail code was changed to white and a green Knight's lance was added to the tail. Squadron insignia was painted on the fuselage side. (Smalley via Swisher) Below, VA-95 A-4B 142897 at NAS Lemoore on 23 September 1967. (William Swisher)



ATTACK SQUADRON ONE ZERO SIX, VA-106 "GLADIATORS"



On 7 November 1969 VA-106 was disestablished.

After equipping with the A4D-2, VA-106 placed second in the air weapons meet and set the Atlantic Fleet record for jet landings in one day in 1958. They won the CNO safety award and the COMNAVAIRLANT "E" in 1959, and the "E" award for NATO exercises in 1960.

The squadron made four cruises while assigned the A4D-2. The first was aboard the USS Essex (CVA-9) from 7 August 1959 through 26 February 1960. During this deployment, while conducting NATO exercise Riptide, held off the east coast of the United States, VA-106 conducted cross deck operations with the British carrier HMS Victorious.

The second cruise was to the North Atlantic and commenced on 6 September 1960. On 20 October the deployment was cut short as the USS Shangri La with VA-106 was ordered to the coast of Central America following a request from Guatemala and Nicaragua. The ship and squadron arrived on station on 15 November and conducted patrols between the coast of these countries and Cuba to

prevent infiltration by communists from Cuba. These patrols lasted through 28 November 1960.

VA-106 and Shangri La deployed again on 2 February 1961 to the Mediterranean, but once again the deployment was cut short as they were ordered back to Central American waters following the assassination of the Dominican Republic's dictator, General Rafael Trujillo. The ship remained on station from 2 June through 19 June 1961 after the domestic situation stabilized in the Dominican Republic.

The final A4D-2/A-4B cruise took place from 7 February through 28 August 1962 aboard the USS Shangri La (CVA-38). Shortly after the conclusion of this Mediterranean cruise, VA-106 was reassigned to the U.S. Air Force's 19th Tactical Air Force as part of the alert force during the Cuban Missile Crisis. The assignment lasted through 28 November 1962.

Below, VA-106 A4D-2 142782 is prepared for launch from the USS Intrepid (CVA-11) on 24 October 1958. The rudder and fuselage arrow were dark green. (USN)





Above, VA-106 A4D-2 142139 aboard the USS Essex in 1959/1960. Tail code has changed to "AK" from "AF" and rudder tabs, fuselage arrow and gladiator helmet were blue. (via Burger) Above right, CDR L. E. Irvin is congratulated after his 400th carrier landing on 11 July 1962. (USN) Below, VA-106 A4D-2s/A-4Bs 144956 (309/AK), 144962 (301/AK) and 145011 (303/AK) over the Atlantic in February 1962. (USN)



Above, VA-106 A4D-2s 145000 (308/AK) buddy tanks VA-106 145026 (305/AK) while VA-106 142883 (311/AK) waits for its turn in the spring of 1962. (USN) At right, VA-106 A4D-2 142772 being spotted on the catapult of the USS Shangri La (CVA-38). (USN) Below, "Double Nuts" A4D-2, 144954 was the Commanding Officer's aircraft. Fin cap, rudder tabs, fuselage arrow and gladiator's helmet were blue. (USN)





Above and below, VA-106 A4D-2 144956 trapping and clearing the gear aboard the USS Shangri La on 10 January 1962. (USN)



ATTACK SQUADRON ONE ONE TWO, VA-112 "BRONCOS"



VA-112 started out as Fighter Bomber Squadron Eleven (VBF-11) on 17 August 1945 with the F6F Hellcat. In November 1946, VBF-11 was redesignated VF-12A and the squadron received F8F Bearcats in December 1946. VF-12A became VF-112 on 15 July 1948. On 11 January 1950, F9F Panthers replaced the Bearcats. The squadron upgraded to the F9F swept-wing Cougar in September 1953. On 5 April 1957, the squadron equipped with the Sparrow missile-armed F3H-2M Demon. On 15 February 1959, VF-112 was redesignated Attack Squadron One Hundred Twelve (VA-112) and received the Douglas A4D-2 Skyhawk. The A4D-2Ns replaced the A4D-2s on 26 March 1961. After six cruises with the A4D-2N/A-4C including three to Vietnam, the squadron was disestablished on 10 October 1969.



After extensive training on the bombing ranges at NAAS Fallon, NV, the A4D-2 pilots called themselves the Bombing Broncos. In July 1960, the squadron deployed aboard the USS Hancock (CVA-19). The Western Pacific cruise lasted through 18 March 1961.

Above, VA-112 A4D-2 149947 in 1959. (via Norm Taylor) Below, A4D-2 142949 at NAS Miramar on 12 September 1959. The rudder was grey and the fin tip forward of the rudder was yellow with a thin black line below and a black bronco. (Swisher) Bottom, 142850 at Miramar on 25 June 1960. (Swisher)



ATTACK SQUADRON ONE ONE THREE, VA-113 "STINGERS"



Fighter Squadron One Hundred Thirteen (VF-113) was established on 15 July 1948 with F8F-1 Bearcats. VF-113 then flew F8F-2s, F4U-4Bs, F9F-5s, F9F-2s, F9F-8s, and finally the F9F-8B before being redesignated Attack Squadron One Hundred Thirteen (VA-113) in March 1956. The squadron received the A4D-1 on 29 April 1957 and the A4D-2 on 8 September 1958. VA-113 upgraded to the A4D-2N on 29 March 1961 and received the A-4F in October 1967. The squadron transitioned to the Vought A-7B Corsair in the fall of 1968. The F/A-18A Hornet was acquired and the squadron was redesignated VFA-113 on 24 August 1983.



CDR R. L. "Zeke" Cormier reported as skipper in March 1957 and immediately organized a Skyhawk flight demonstration team, the "Albino Angels". By August, the unit's close-in precision flying spell-bound the huge crowd at the annual Miramar air show. Forming the flight demonstration team was a natural for Zeke, as he had previously served as the Blue Angels' Commanding Officer.

At the hands of CDR Cormier, the squadron did more than just receiving kudos for fancy flying. Within eleven months of receiving the A-4D-1s, squadron pilots had amassed over 37 individual "E" awards in special weapons delivery. The awards were

Above, VA-113 A4D-1 142222 at NAS Miramar on 10 August 1957. The blue bordered by black on this early paint scheme was metallic blue. This was the scheme developed for the "Albino Angels". (Doug Olson via Swisher) Below, A4D-1 142218 on 10 August 1957. Note the early 150 gallon drop tanks. (Larry Smalley via Swisher)

received in three deployments to NAAS El Centro and two to NAAS China Lake and one at NAAS Fallon. In addition, the squadron had logged over 4,500 hours in the new Skyhawks and had dropped a total of 5,497 Mk. 76 practice bombs.



During this period, the squadron received the informal nickname of "The Friendly Squadron". According to "Stinger Mythology", this nickname stemmed from the mutual regard and respect between the officers and men of this squadron.

Carrier qualifications were conducted in November 1957 aboard the USS Hancock (CVA-19) and on 8 March 1958 the squadron deployed the A4D-1s. The cruise aboard the USS Shangri La (CVA-38) lasted through 21 November 1958. After transitioning to the A4D-2, the squadron redeployed aboard CVA-38 again from 9 March through 3 October 1959. Another A4D-2 cruise was made from 16 July 1960 through 18 March 1961. This cruise was aboard the USS Hancock.



At top, VA-113 A4D-1 being started on the deck of CVA-19 in 1958. Note spiral blue flames on the tip tanks. "LTJG Roger Meek" is painted below the windscreen. (John Miottel) At right, VA-113 A4D-1 142221 during carrier trials in November 1957. (National Archives) Bottom, squadron aircraft lined up on the deck of the USS Hancock (CVA-19) in November 1957. (USN)





VA-113 "STINGERS"

Above, VA-113 flightline in July 1957. Aircraft in foreground has a special weapons shape on the centerline. (USN) At left, Stinger centurion society 1959 cram into A4D-2 cockpit. CDR Cormier (center) was CAG 11, LCDR M. M. Simons (baseball hat) and LTJG J. C. Holland, R. Jones, and K. I. Jurgensen. (USN) Below, VA-113 A4D-2 142858 at MCAAS Yuma on 3 December 1959. Rudder was gull grey and the leading edge of the fin was painted blue. (William Swisher)



ATTACK SQUADRON ONE TWO FIVE, VA-125 "ROUGH RAIDERS"

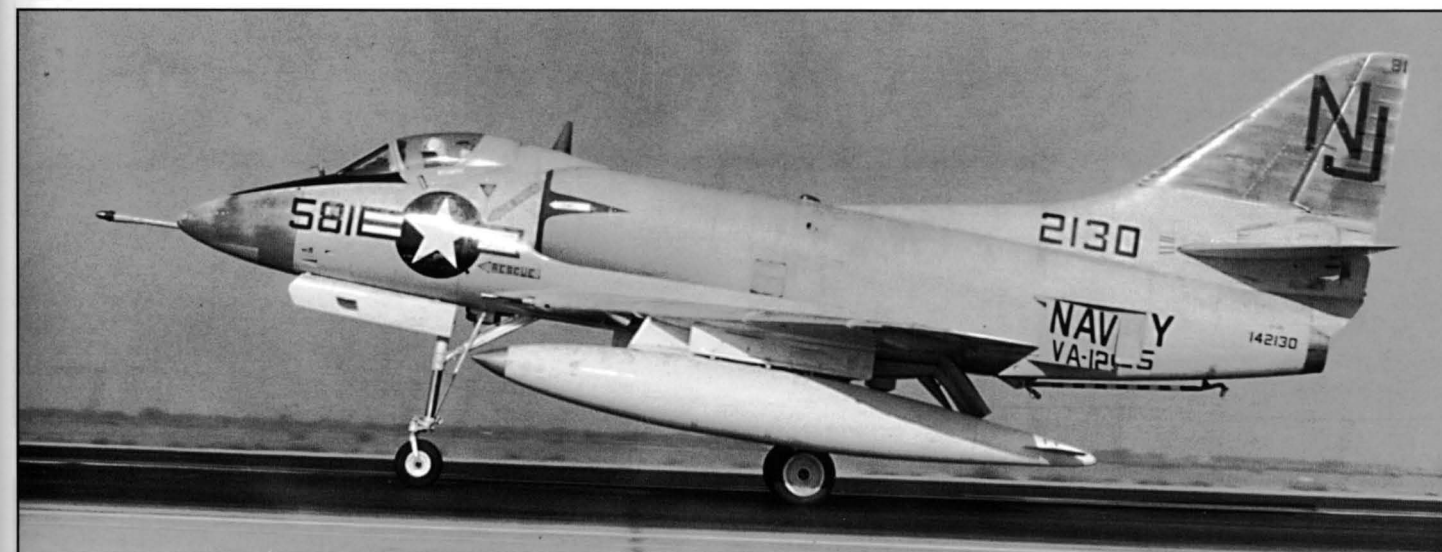


VA-923 and was called up during the Korean War while flying the Martin AM-1 Mauler (see Naval Fighters #24 Martin AM-1 Mauler). The squadron converted to Skyraiders in September 1950, and was still flying the AD when it was redesignated VA-125 on 4 February 1953. Cougars replaced the Skyraiders in 1956 and the squadron was disestablished on 10 April 1958.

The second VA-125 started out as VA-26 on 30 June 1956 flying F9F-8B Cougars. VA-26's mission was changed to the indoctrination and training of pilots and enlisted personnel in attack aircraft for the fleet. The squadron was redesignated VA-125 on 11 April 1958, and the A4D-1 replaced the Cougars on 10 June

1958. The A4D-2 was added in August 1958 and the A4D-2N was added to the training syllabus on 3 March 1960. The AD-5 was added in September 1960 and the A-4E in December 1962. The TA-4F arrived on 19 May 1966 and the A-4F was acquired in February 1968. A-7 Corsairs were added in 1969 and the squadron was disestablished on 1 October 1977 at NAS Lemoore, CA.

Below, VA-125 A-4A 142130 taxis at NAS Miramar. Tail nose and outer wing panels were faded da-glo red. (via Harry Gann) Bottom, A-4B 142095 at NAAS El Centro Nose and tail chevron were weathered da-glo red. (H. Gann)





VA-125

Above, A4D-2 142094 at NAS Lemoore, CA, on 8 July 1961. Note shape of da-glo tail arrow. (William Swisher) At right, A4D-2 motors past the ship during carquals off San Diego. (USN) Bottom, VA-125 carrier qualifications with A-4B 142773. Outer wing panels both top and bottom were da-glo red. (USN)



ATTACK SQUADRON ONE TWO SIX, VA-126 "FIGHTING SEA HAWKS"



VA-126 was established on 6 April 1956 and assigned to CVG-12. The squadron was originally equipped with the F7U-3 Cutlass, which it flew until March of 1957. Transition to the F9F-8B occurred in early 1958 and shortly thereafter the FJ-4B Fury took over. In 1959, the Navy established the Fleet Replacement Air Groups and VA-126 became the training squadron for the Pacific Fleet FJ-4B, A4D-1, and the AD-5/6/7. Then, in 1960 the squadron took on the added responsibility of providing jet transition and instrument

training to the Pacific Fleet. To fulfill this mission, the squadron received the F9F-8T two-seat Cougar. The squadron was redesignated VF-126 in October 1965 and by 1970 was doing the adversary mission full-time with a mixed bag of A-4 Skyhawks.

Below, VA-126 A4D-1 139923 at NAS Miramar on 25 June 1960. (Swisher) Bottom, A4D-1 139920 at Miramar on 25 June 1960. (William Swisher)





Above, VA-126 A-4A Skyhawks 142156, 149946, 142219, and 149958 over NAS North Island, CA, in 1962. The nose and the tail fin chevron were da-glo red. (USN) Below, VA-126 A4D-1 142160 at San Francisco International Airport on 27 September 1959. The rudder was grey. (Larry Smalley via William Swisher)



ATTACK SQUADRON ONE THREE THREE, VA-133 "BLUE KNIGHTS"



VA-133 was established on 21 August 1961 at NAS Cecil Field with the A4D-2 Skyhawk. The squadron and its sister squadron VA-134 were formed as a response to the Berlin Crisis of 1961-1962. The squadrons joined the newly established Air Group Thirteen (CVG-13). Under the command of CDR M. A. Feher, the squadron flew from the decks of the USS Constellation (CVA-64). VA-133 was disestablished on 1 October 1962.

The Blue Knights deployed for carrier trials from 8 February through

19 February 1962. The "Connie" and her Air Group were put on standby alert for possible use during the launching and recovery of the Project Mercury spacecraft Friendship 7, piloted by LCOL John Glenn USMC. Then, in March through May of 1962, the squadron participated in the Constellation's shake down cruise.

Below, VA-133 A4D-2 142885 on the deck of the USS Constellation (CVA-64) during a Terrier missile test shot. Aircraft trim was blue. (USN)



ATTACK SQUADRON ONE THREE FOUR, VA-134 "SCORPIONS"



VA-134 was established on 21 August 1961 under the command of CDR Kenneth B. Austin as part of the newly formed CVG-13. The squadron's short life mirrored that of previously described VA-133. VA-134 was disestablished on 1 October 1962.

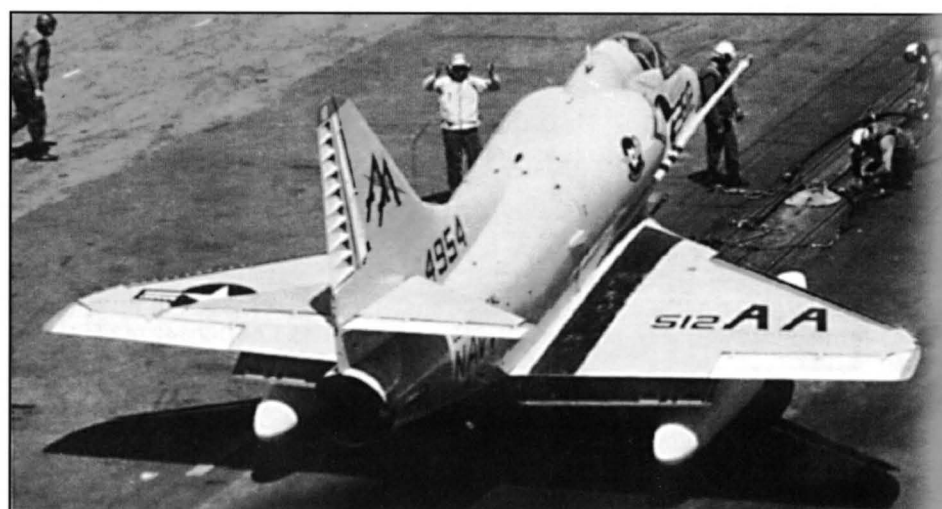
Below, four VA-134 A4D-2s bank toward the USS Constellation. Bottom to top 142761, 142743, 142734 and 142777. Note orange trim on the drop tanks and orange rudder tabs. (USN)



Above, four VA-134 A4D-2s over the USS Constellation (CVA-64). Fin tip and rudder tabs were orange. The aircraft carry the newly-formed CVG-13 "AE" tail code. (USN) Below, VA-134 A4D-2 142743 is tensioned on the Constellation's catapult in 1962. (USN)



ATTACK SQUADRON ONE FIVE TWO, VA-152 "FIGHTING ACES"



Reserve Fighter Squadron Seven Hundred Thirteen (VF-713) was called to active duty on 1 February 1951 and received F4U-4s as replacements for their F8Fs. On 4 February 1953, VF-713 was redesignated VF-152 and transitioned to F2H-3s in October 1953. VF-152 was redesignated Attack Squadron One Hundred Fifty Two (VA-152) on 1 August 1958. The squadron received AD-6 and AD-7 aircraft in 1959 and 1962 respectively. These were replaced with A-4Bs in February 1968 and A-4Es in May 1969. After this cruise, VA-152 was disestablished on 29 January 1971.

The squadron's conversion to the A-4B Skyhawk was facilitated by the absorption of VSF-3's assets on 9 February 1968. VA-152 made one A-4B cruise aboard the USS Forrestal

(CVA-59) from 22 July 1968 through 29 April 1969. The squadron was assigned to CVW-17 for this Mediterranean deployment, the last ever for the A-4B.

At top, A-4B 144872 at Alameda on 2 May 1968. (Smalley via Swisher) Above, A-4B 144954 on CVA-59 in 1968. (USN) Below, CAG bird 144966 at Lemoore on 1 June 1968. Fin tip, rudder stripe, lightning bolt and drop tank trim were green. (Swisher)



ATTACK SQUADRON ONE FIVE THREE, VA-153 "BLUE TAIL FLIES"



Below, VA-153 A4D-1 142156 aboard the USS Hancock (CVA-19) in 1958. The aircraft had an all-blue tail with white tail stripes. The anti-glare panel on these early Skyhawks was medium grey. (USN)

Reserve Fighter Squadron Eight Hundred Thirty One (VF-831) was called to active duty on 1 February 1951 with the F9F-2. VF-831 was redesignated Fighter Squadron One Hundred Fifty Three (VF-153) on 4 February 1953. VF-153 transitioned to F9F-6 Cougars in October 1953 and FJ-3 Furys in March 1955. In November 1955, F9F-8s were received and in April 1956 the F9F-8B was acquired. With this aircraft, VF-153 was redesignated Attack Squadron One Hundred Fifty Three (VA-153) on 15 December 1956. A4D-1s arrived on 12 February 1957, and A4D-2s on 27 October 1958. The A4D-2N replaced the A4D-2 on 20 June 1961 and the A-4E arrived in January 1967. On 14 September 1969, VA-153 transitioned to Vought A-7As. The squadron flew Corsairs until its disestablishment on 30

September 1977.

After transitioning to the A4D-1, the squadron deployed aboard the USS Hancock (CVA-19) from 15 February through 2 October 1968. From 23 August through 9 September 1958 the squadron flew sorties in the Taiwan Straits after the Chinese Communists bombed Quemoy Island.

VA-153 deployed the A4D-2 from 1 August 1959 through 18 January 1960 aboard the Hancock once again. A second Western Pacific A4D-2 cruise took place aboard the USS Coral Sea (CVA-43) from 19 September 1960 through 27 May 1961.

In addition, VA-153 formed Det R with the A-4B in 1964 for a deploy-





"BLUE TAIL FLIES"

Above, VA-153 A4D-1 142210 crosses the fantail of the USS Hancock in 1958. (John Miottel)

At left, VA-153 A4D-2 142923 launches from the USS Hancock (CVA-19) in 1959. Blue Tail Flies markings were removed from the tail for the 1959-60 cruise. (USN)

Below left, VA-153 Det R A-4B 142874 aboard the USS Kearsarge (CVS-33) in 1964. Tail markings were black. Note Sidewinder rails under the wings. (USN)

Bottom, VA-153 Det R A-4B 142131 at NAS Moffett Field, CA, on 16 May 1964. (Smalley via Swisher)

ment aboard the USS Kearsarge CVS-33. Det R provided combat air patrol protection for CVSG-53.

ATTACK SQUADRON ONE FIVE FIVE, VA-155 "SILVER FOXES"



Attack Squadron Seventy One E (VA-71E) was established in 1946. It was redesignated VA-58A on 1 October 1948, VC-772 on 1 November 1949, and finally VA-728 on 1 April 1950. They re-equipped with AD Skyraiders in 1951 when they were called to active duty on 1 February 1951. While flying AD-6s, VA-728 was redesignated VA-155 on 4

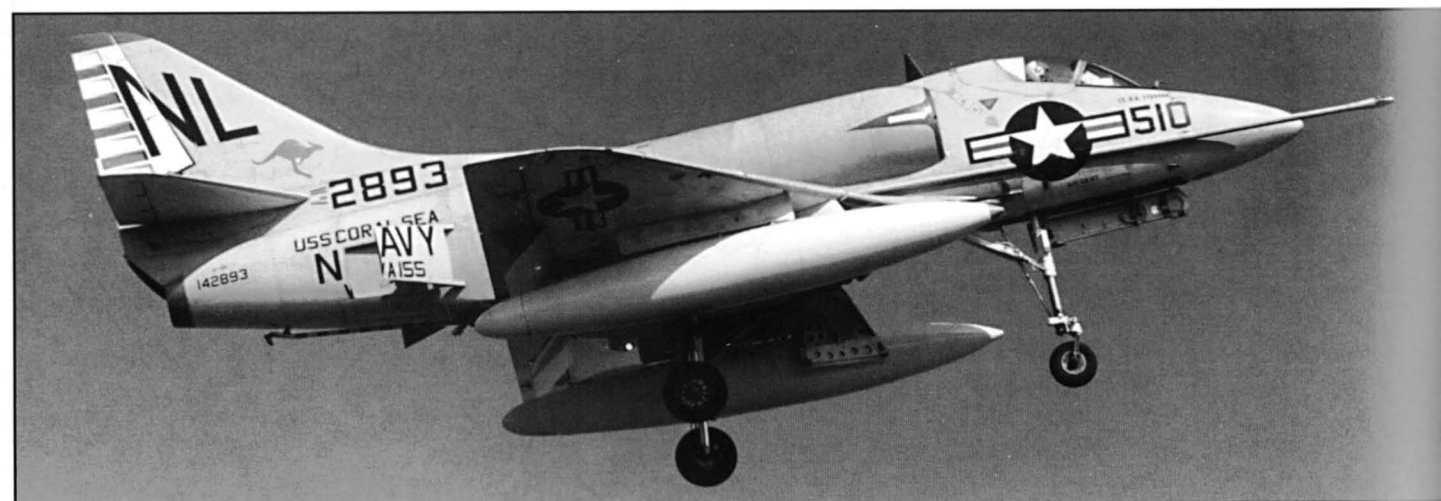


Above, VA-155 A4D-2s 142862 and 142840 in 1959. (USN) Below, VA-155 A4D-2 142865 crosses the fantail of the USS Coral Sea on 4 March 1961. Aircraft was armed with Sidewinders. Fin tip was green. (USN)





Above, VA-155 A-4Bs 142849 508/NL and 142816 512/NL landing at NAS Atsugi on 19 September 1963. (T. Matsuzaki) Below, 142843 lands at NAS Atsugi on 18 June 1962. (T. Matsuzaki) Below, 142893 with green rudder stripes and a large squadron insignia on the intakes. (via Burger) Bottom, 142893 landing at Kadena on 19 September 1963. (T. Matsuzaki)



February 1953. AD-7s were received in November 1957 and the A4D-2 Skyhawk arrived on 8 October 1958. The squadron graduated to the A-4E in December 1963 and the A-4F in April 1968. On 29 September 1969, VA-155 re-equipped with the Vought A-7B Corsair. They continued to fly A-7s until being disestablished on 30 September 1977

Four cruises were made with the A4D-2 (A-4B), the first aboard the USS Hancock (CVA-19) from 1 August 1959 through 18 January 1960. The second cruise was from 19 September 1960 through 27 May 1961 aboard the USS Coral Sea (CVA-43). During this deployment, VA-155 operated in the South China Sea after Pathet Lao forces captured strategic positions in Laos. The third cruise was also conducted aboard the Coral Sea and was from 12 December 1961 through 17 July 1962. The fourth A-4B cruise was from 3 April through 25 November 1963 aboard CVA-43.

ATTACK SQUADRON ONE SIX THREE, VA-163 "SAINTS"



VA-163 was established on 1 September 1960 at NAS Cecil Field, FL, with the Douglas A4D-2 Skyhawk. In March 1964, the A-4E replaced the A-4B. On 1 July 1971 the squadron was disestablished.

In June 1961, VA-163 was the only fleet squadron to participate in the fiftieth Anniversary of Naval Aviation celebration at Pensacola, FL, by providing static displays and a fire power demonstration. On 26 September 1961, the squadron trans-

ferred to NAS Lemoore, CA. In June 1962, the squadron began its first WestPac deployment aboard the USS Oriskany (CVA-34). The WestPac deployment lasted through 17 December 1962. After returning from their first deployment, the "Saints" participated in the Presidential Fire Power Demonstration at NAF China Lake, CA. A second A-4B deployment aboard the the USS Oriskany occurred in August 1963 through 10 March 1964.

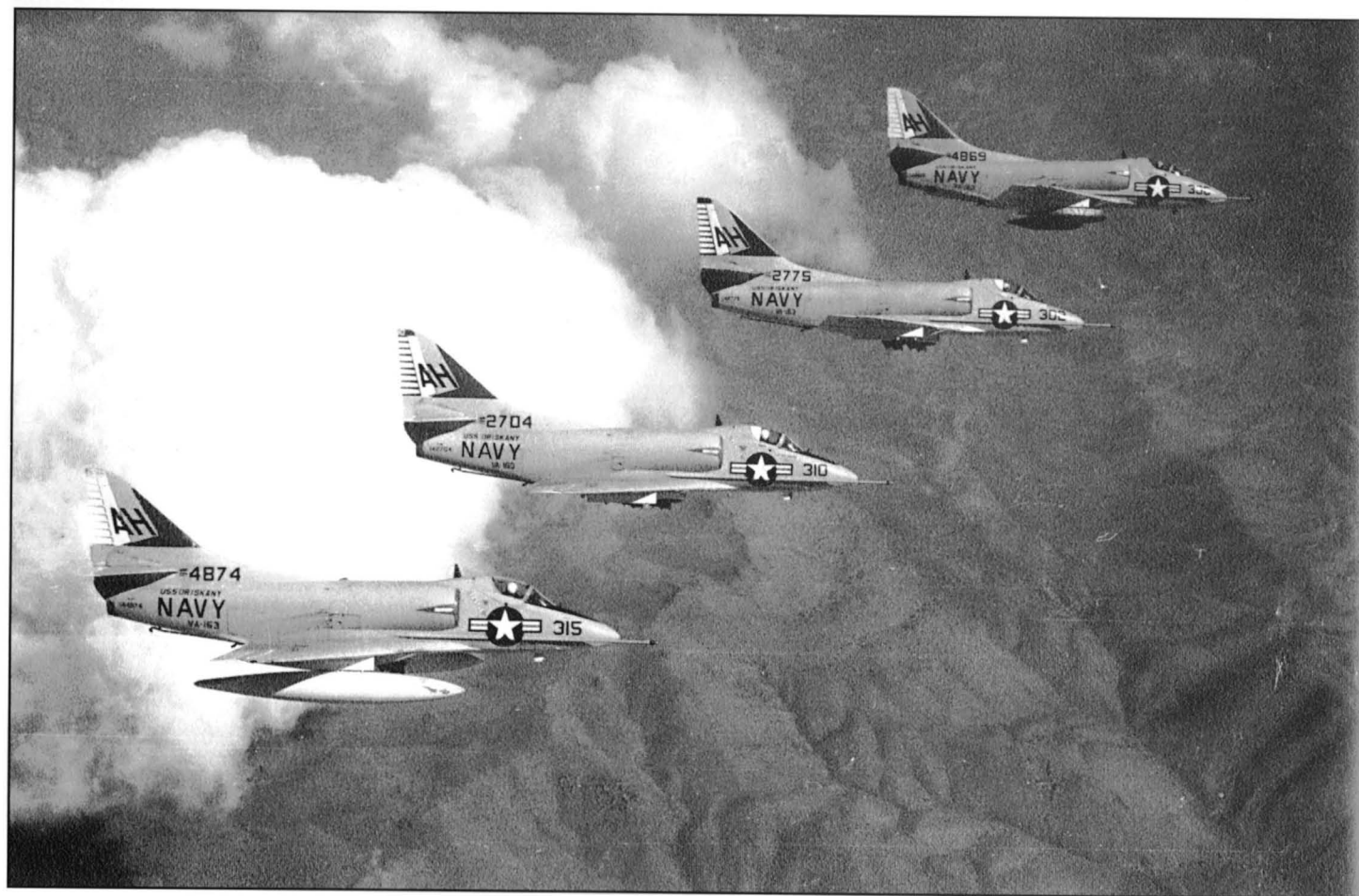


Above, CDR Don Marshall in A4D-2 142824 at the Douglas plant. Tail and rudder trim was blue. (Douglas) Below, VA-163 A4D-2 142128 landing at NAS Atsugi on 28 September 1962. Pilot was LCDR Bob Sample. (T. Matsuzaki)





Above, VA-163 A-4B 144911 at NAS Los Alamitos, CA, on 13 June 1964. Note blue drop tank trim and black outline of the tail chevron. (Harry Gann) Below, VA-163 A-4Bs 144869 300/AH, 142775 302/AH, 142704 310/AH, and 144874 315/AH. (USN)



Above, VA-163 A4D-2 142914 at NAS Lemoore, CA, on 30 May 1962. Aircraft nose number was always repeated in white on the red inside of the flaps on all Skyhawks. (William Swisher) Below, VA-163 A4D-2 142136 at NAS Cecil Field, FL, on 22 March 1961. (USN)



ATTACK SQUADRON ONE SIX FOUR, VA-164 "GHOST RIDERS"



VA-164 was commissioned on 1 September 1960 at NAS Cecil Field, FL, as one of five squadrons (VF-161, VF-162, VA-163, VA-164, and VA-165) in the newly-recommissioned Carrier Air Wing Sixteen. The squadron's first aircraft was the Douglas A4D-2 Skyhawk. On 13 March 1964, the A-4E replaced the A4D-2. The squadron received the A-4F in April 1969 and the TA-4F was added in August 1972. VA-164 was disestablished on 12 December 1975.

During its first year, the squadron operated from NAS Cecil Field providing various services to fleet units.



In September 1961, the squadron moved to NAS Lemoore, CA, and settled into the task of becoming a qualified fleet squadron. The intensive training schedule saw deployments to MCAS Yuma and NAF Fallon for

Above, VA-164 A4D-2 142127 being hoisted aboard the USS Oriskany for its 1962 cruise. (USN) Below, VA-164 A4D-2 144907 with max bomb load during work-up for its 1962 WestPac cruise. Note squadron insignia on fuselage intake. (USN)



Above, VA-164 A4D-2 Skyhawks 144904 (401/AH) and 142762 (406/AH) over the western Pacific. (USN) Below, VA-164 A4D-2 144869 landing aboard the USS Oriskany in 1962. (USN)





weapons training. On 26 February 1962, carrier qualifications commenced aboard the USS Oriskany (CVA-34). Once completed, the squadron was deemed operational for future Pacific Fleet carrier deployments. The squadron maintained its readiness throughout the spring with continuous drills, and on 7 June 1962 sailed aboard the Oriskany for a seven-month WestPac cruise. VA-164 returned to NAS Lemoore on 18 December 1962.

In 1963, VA-164 participated in a firepower demonstration at NAF China Lake for President John F. Kennedy. Four squadron aircraft demonstrated low-level bombing while another four armed with rockets annihilated their target. The comment of the dignitaries present was, "outstanding". A second Western Pacific cruise with the A-4B was conducted aboard CVA-34 from 1 August 1963 through 10 March 1964. During the cruise, the Oriskany operated in the South China Sea during a crisis in South Vietnam and the coup that overthrew President Diem.

At top, VA-164 A4D-2 144907 assigned to the USS Oriskany in July 1962. Chevron on the drop tanks and tail was orange as well as the fin tip and rudder tabs. CDR Jace Stetson and P/C Bottorff ADJ-3 were written below the canopy. (Harry Gann) Above, VA-164 CAG bird A-4B 144904 departing NAS Atsugi in company with A-4B 144975 on 22 November 1963. (T. Matsuzaki) At left, right hand side of VA-164's CAG Skyhawk 144904 landing at NAS Atsugi on 22 November 1963. (T. Matsuzaki) At left, VA-164 A-4B 142127 landing at NAS Atsugi on 28 September 1962. (T. Matsuzaki)

ATTACK SQUADRON ONE SEVEN TWO, VA-172 "BLUE BOLTS"



VA-172 was originally established on 20 August 1945 as VBF-82. They were initially equipped with F6F Hellcats, but received 24 F4U Corsairs in late September. Originally stationed at NAS Alameda, the squadron transferred to NAS

Quonset Point, RI, in January 1946. While at Quonset, the squadron was redesignated VF-18A on 15 November 1946. VF-18A was redesignated VF-172 on 11 August 1948 and in March 1949 they moved to NAAS Cecil Field, FL. The squadron immediately transitioned to the McDonnell FH-1 Phantom and flew it though June when the McDonnell F2H-1 Banshee was received. VF-172 became VA-172 on 1 November 1955. The squadron flew four versions of the Banshee (F2H-1, F2H-2, F2H-4, F2H-2B) before transitioning to the A4D-1 Skyhawk in December 1957. In May 1958, A4D-2s replaced the A4D-1s and in September 1961 the A4D-2N replaced the A4D-2. On 15 January 1971, VA-172 was disestablished.

VA-172's first Skyhawk deployment was aboard the USS F. D. Roosevelt (CVA-42) from 13 February 1959 though 1 September 1959. During their Mediterranean A4D-2 cruise, VA-172 took part in Operations Big Deal, Tuner-Up, and Top Weight. They also conducted simulated atomic strikes over Spain, Italy, Greece and Turkey. They also flew close air support missions to cover simulated amphibious landings on the coast of Italy near Pisa.

The Blue Bolts deployed aboard

Below, Blue Bolts A4D-2 being man-handled into position in the hangar bay aboard the USS F. D. Roosevelt in 1958. (USN)





the F. D. R. again five months after returning to CONUS. This A4D-2 cruise lasted from 28 January 1960 through 24 August 1960. VA-172 participated in Operation Big Deal II,

Regex I, Royal Flush and Purple Sage. In April, the Blue Bolts provided close air support for an amphibious landing exercise by the Marines of Task Force 61 on the coast of

Libya. In May and June they operated with the HMS Ark Royal. The squadron's cruise totals were 3,005 flight hours, of which 480 hours were at night, and 1,259 carrier landings, of which 306 were at night.

In October 1960, the squadron participated in a close air support exercise under control of TACRON Eleven, in which live 250 and 500 pound bombs were dropped on targets in the Pinecastle target area near Jacksonville, FL. VA-172 was the only squadron specifically named and commended in TACRON 11's report to COMNAVAIRLANT.

A third A4D-2 cruise on Roosevelt departed Mayport on 15 February 1961 and returned on 28 August 1961. During 19 days in May, the squadron flew 1021.6 hours and made 408 arrested landings.

Above, VA-172 A4D-2 145006 aboard the USS F. D. Roosevelt in 1961. (USN) Below, VA-172 A4D-2 142790 launches from CVA-42 in 1961. (USN)



ATTACK SQUADRON ONE NINE TWO, VA-192 "GOLDEN DRAGONS"



VF-153 was established on 26 March 1945 with F6F-3 Hellcats. They were redesignated VF-15A on 15 November 1946 and received F8F-1 Bearcats in November 1947. On 15 July 1948, they became VF-151 and transitioned to the F8F-2 in July 1949. Then, on 15 February 1950, they became VF-192. As VF-192 the squadron flew F4U-4s, F9F2s, F9F-5s, and F9F-6s. On 15 March 1956, VF-192 was redesignated Attack Squadron One Hundred Ninety Two (VA-192). In June, they received F9F-8s and F9F-8Bs. These were replaced with FJ-4B Furys on 10 December 1957. The A4D-2 Skyhawk entered the scene in July 1959 and the A4D-2N arrived in June 1960. The A-4E replaced the A-4C in June 1966 and the A-4F replaced the the echos in 1967. The squadron transitioned to the Vought A-7E Corsair on



26 February 1970 and was redesignated VFA-192 on 10 January 1986. As VFA-192, the Golden Dragons flew the F/A-18A Hornet.

Only one WestPac deployment was made with the A4D-2. It was aboard the USS Bon Homme Richard (CVA-31) along with its sister

squadron VA-212. The cruise was from 21 November 1959 through 14 May 1960.

Above, VA-192 A4D-2 142904 aboard the USS Bon Homme Richard in 1959. Fin tip was yellow. (USN) Bottom, 142917 lands on CVA-31. (USN)



ATTACK SQUADRON ONE NINE FIVE, VA-195 "DAMBUSTERS"



Torpedo Squadron Nineteen (VT-19) was established on 15 August 1943 with TBM Avengers. VT-19 was redesignated Attack Squadron Twenty A (VA-20A) on 15 November 1946 and received AD-1 Skyraiders on 3 May 1947. They became VA-195 on 24 August 1948 and flew various versions of Skyraiders until 1 July 1959, when the squadron received the A4D-2 Skyhawk. The A4D-2N arrived in May 1960 and the A-4E in September 1968. The Vought A-7E replaced the Skyhawks in February 1970 and the F/A-18A replaced the A-7Es in September 1985. VA-195 was redesignated VFA-195 on 1 April



1985 and equipped with the F/A-18 Hornet.

The Dambusters made only one deployment with the A4D-2. It was from 21 November 1959 through 14 May 1960 aboard the USS Bon Homme Richard (CVA-31) to the

Above, VA-195 A4D-2 aboard the USS Bon Homme Richard (CVA-31) in 1959 is being prepped for a mission. Fin tip was green. (USN) Bottom, VA-195 A4D-2 lands on CVA-31 in early 1960. (USN)

western Pacific.



ATTACK SQUADRON TWO ONE TWO, VA-212 "RAMPANT RAIDERS"



Attack Squadron Two Hundred Twelve was established on 22 June 1955 at NAS Moffett Field, CA, as an F7U-3 Cutlass squadron. F9F-8B Cougars replaced the Cutlasses in April 1957. Three months later, the FJ-4B was received and was used until 20 June 1961 when the A4D-2 was received. On 2 January 1964, the squadron received the new A-4E. The A-4F replaced the A-4Es in October 1967. VA-212 was disestablished on 12 December 1975.

The A4D-2s were received at NAS Moffitt Field in June 1961 and the squadron transferred to the new Master Jet Base at NAS Lemoore, CA, in September. While equipped



with the A-4Bs, VA-212 joined the USS Hancock (CVA-19) for two Far East deployments.

The first Hancock deployment was from 2 February 1962 through 24 August 1962. During April, they operated off the coast of South Vietnam during the arrival of the first United States Marine advisory units to the Republic of Vietnam. From 16 through 20 May, the Hancock and VA-212 were tasked with providing close air support, if needed, for US Marines protecting the border of Thailand and Laos. The Pathet Lao forces had been very active in defeating Laotian government forces along the border with Thailand.

The second A-4B cruise was from 7 June 1963 through 16 December 1963. In September, the Hancock operated off the coast of Taiwan during a period of heightened tensions between the two Chinas. In November, CVG-21 was operating off the coast of South Vietnam following the overthrow of President Diem.

Above, VA-212 A-4B 142847 landing at NAS Atsugi on 8 October 1963. Fin tip was yellow and the squadron insignia appears on the fuselage side. (T. Matsuzaki) Below, VA-212 A4D-2 142872 aboard the USS Coral Sea (CVA-43) at NAS North Island, CA, on 9 August 1961. Fin tip was yellow and rudder was gull grey. (William Swisher)



ATTACK SQUADRON TWO ONE SIX, VA-216 "BLACK DIAMONDS"



Attack Squadron Two Hundred Sixteen (VA-216) was established on 30 March 1955 with AD-4Bs. They later flew AD-5s, AD-6s and AD-7s until being replaced with A4D-2s on 16 February 1959. These were replaced five months later with FJ-4B Furys. On 4 September 1962, the A-4C replaced the Fury. The squadron's "C"s were exchanged for "B"s in August 1966 and then they received the "C"s again in 1968. On 13 June 1969, the A-4E replaced the A-4C. VA-216 was disestablished on 1 August 1970.

After two Vietnam war cruises with the A-4C, VA-216 equipped with A-4Bs for a Mediterranean cruise aboard the USS Saratoga (CVA-60). The Med deployment lasted from 2 May 1967 through 6 December 1967.

Below, VF-31 F-4B being refueled by VA-216 A-4B 142139 in July 1967. (USN) Bottom, VA-216 A-4B 144943 landing on the USS Saratoga in 1967. All trim including rudder diamonds were black. (S. Peltz via Fred Roos)



Above, VA-216 A-4B 142815 assigned to CDR John Wissler COMCVW-3 at NAS Lemoore on 18 March 1967. (Swisher) Below, VA-216 A-4B 142815 assigned to CDR Jim Tyson at NAS Lemoore on 18 March 1967. (Swisher) Bottom, VA-216 A-4B 142729 assigned to LCDR Jim Meehan aboard the USS Saratoga (CVA-60) while in the Mediterreanean in July 1967. Anti-glare panel was medium grey. (S. Peltz via Norm Taylor)



ATTACK SQUADRON SEVEN SEVEN SIX, VA-776



Reserve Attack Squadron Seven Hundred Seventy Six (VA-776) was called to active duty on 27 January 1968 following the capture of the USS Pueblo (AGER 2) by a North Korean patrol boat on 23 January. The squadron was called-up flying A-4Bs but received A-4Es in June 1968. The squadron was deactivated on 18 October 1968 and returned to reserve status.

During the the call-up period, one squadron pilot was lost during training.

Below, VA-776 A-4B 142682 at NAS Alameda on 19 March 1968. The NR tail code would have been changed to a standard Air Wing tail code if the squadron had deployed. Vertical tail flashes and fin tip were green. (William Swisher)



ATTACK SQUADRON EIGHT THREE ONE, VA-831



Originally based at NAS New York, VA-831 was called up during the Pueblo Crisis while equipped with the A-4B Skyhawk.

At right, VA-831 A-4B 144870 at NAS Cecil Field. Squadron was administratively assigned to the USS John F. Kennedy but did not deploy. Rudder flashes and fin tips were green.



FLEET AIR GUNNERY UNIT, PACIFIC (FAGU)



The Fleet Air Gunnery Unit Pacific, provided aerial gunnery training for Navy and Marine pilots from NAAS El Centro and from MCAAS Yuma. By mid-1959, a small number of F8U-1s, FJ-4Bs, A4D-2s, and F4D-1s were used by FAGU. FAGU's tail code was "TR" and the aircraft carried red and white checked trim.



DOUGLAS FLIGHT TEST A-4B N116MD AND N905MD



Above, all-grey Douglas Flight Test A-4B N905MD in-flight in 1976 with blue practice Sidewinders under each wing. McDonnell Douglas and the company logo are on the fuselage side. (Harry Gann) Below, Flight Test A-4B N116MD being towed at Palmdale, CA, in 1976. (Harry Gann)



A4D-1 (A-4A) PERFORMANCE

TAKE-OFF LOADING CONDITION		(1) LOW ALT. ATTACK 1-1050 LB. STORE 2-150 GAL.EXT.TANKS	(3) SEA LEVEL STORE DELIVERY 1-1050 LB. STORE 2-150 GAL.EXT.TANKS	(5) SEA LEVEL STORE DELIVERY 1-2025 LB. STORE	(7) SEA LEVEL STORE DELIVERY 1-3500 LB. STORE 2-150 GAL.EXT.TANKS	(9) SEA LEVEL STORE DELIVERY 2-500 LB. STORES 1-1000 LB.STORE
TAKE-OFF WEIGHT	lb.	18,128	18,128	16,851	20,578	16,826
Fuel Internal/External (JP-5)	lb./lb.	5440/2040	5440/2040	5440/	5440/2040	5440/
Payload	lb.	1050	1050	2025	3500	2000
Wing loading	lb./sq.ft.	69.7	69.7	64.8	79.1	64.7
Stall speed - power-off	kn.	121	121	115	129	117
Take-off run at S.L. - calm (A)	ft.	2305	2305	1975	3310	1975
Take-off run at S.L. 25 kn.wind(A)	ft.	1525	1525	1285	2275	1280
Take-off to clear 50 ft. - calm (A)	ft.	3840	3840	3330	5210	3320
Max. speed/altitude (B)	kn./ft.	545/6000	545/6000	565/S.L.	544/6000	564/S.L.
Rate of climb at S.L. (B)	fpm	6740	6740	7800	5750	7805
Time: S.L. to 20,000 ft. (B)	min.	3.9	3.9	3.3	4.6	3.3
Time: S.L. to 30,000 ft. (B)	min.	7.1	7.1	5.8	8.7	5.8
Service ceiling (100 fpm) (B)	ft.	38,500	38,500	40,450	35,850	40,450
Combat range	n.mi.	1298	1298	847	1096	847
Average cruising speed	kn.	410	410	405	410	405
Cruising altitude(s)	ft.	33,100-40,700	33,100-40,700	34,400-39,300	30,300-36,700	34,400-39,300
Combat radius/Mission time (C)(D)	n.mi.	552/2.8	394/2.0	165/0.8	367/1.8	165/0.8
Average cruising speed	kn.	410	410	410	410	410
15,000 ft. store delivery radius/mission time	n.mi./hr.	600/3.0	600/3.0	376/1.9	552/2.8	376/1.9
COMBAT LOADING CONDITION		(2) TANKS OFF STORE RETAINED	(4) TANKS OFF STORE RELEASED	(6) STORE RETAINED	(8) TANKS OFF STORE RETAINED	(10) STORES RETAINED
COMBAT WEIGHT	lb.	15,876	14,826	14,675	18,326	14,650
Engine power		MILITARY	MILITARY	MILITARY	MILITARY	MILITARY
Fuel		FULL INTERNAL	FULL INTERNAL	60% INTERNAL	FULL INTERNAL	60% INTERNAL
Combat speed/altitude	kn./M/ft.	566/.86/S.L.	577/.87/S.L.	565/.85/S.L.	567/.86/S.L.	565/.85/S.L.
Rate of climb/altitude	fpm/ft.	8400/S.L.	9350/S.L.	9145/S.L.	7120/S.L.	9150/S.L.
Combat ceiling (500 fpm)	ft.	40,800	42,450	42,350	37,800	42,400
Rate of climb at 15,000 ft.	fpm	5850	6620	6400	4880	6405
Max. speed at 15,000 ft.	kn./M	558/.89	566/.90	557/.89	557/.89	557/.89
Max. speed/altitude	kn./M/ft.	566/.86/S.L.	577/.87/S.L.	565/.85/S.L.	567/.86/S.L.	565/.85/S.L.
Max. speed at 35,000 ft.	kn./M	516/.89	525/.91	518/.90	506/.88	518/.90
LANDING WEIGHT	lb.	10,548	10,548	10,445	10,548	10,445
Fuel	lb.	1162	1162	1059	1162	1059
Stall speed - power-off/appr.pwr	kn./kn.	90.9/86.7	90.9/86.7	90.5/86.3	90.9/86.7	90.5/86.3
Distance-grnd.run/over 50ft.obstacle	ft./ft.	2520/3235	2520/3235	2490/3205	2520/3235	2490/3205

A4D-2 (A-4B) PERFORMANCE

A4D-2 (A-4B) PERFORMANCE		① SEA LEVEL STORE DELIVERY 1-1050 LB. STORE 2-150 GAL.EXT.TANKS	③ SEA LEVEL STORE DELIVERY 1-2025 LB. STORE 2-300 GAL.EXT.TANKS	⑤ 15,000 FT. STORE DELIVERY 3-BULLPUP MISSILES	⑦ LOW ALT. ATTACK 3-ZUNI ROCKET PACKAGES	⑨ MODIFIED HIGH ALTITUDE ATTACK 2-CORVUS MISSILES 1-300 GAL.EXT. TANK
TAKE-OFF LOADING CONDITION						
TAKE-OFF WEIGHT	lb.	18,324	21,469	17,203	16,947	20,928
Fuel internal/external (JP-5)	lb./lb.	5440/2040	5440/4080	5440/NONE	5440/NONE	5440/2040
Payload	lb.	1050	2025	1650	1284	3500
Wing loading	lb./sq.ft.	70.5	82.6	66.2	65.2	80.5
Stall speed - power-off	kn.	122	132	118	117	130
Take-off run at S.L. - calm (A)	ft.	2390	3745	2045	2000	3480
Take-off run at S.L. 25 kn.wind(A)	ft.	1580	2610	1325	1300	2410
Take-off to clear 50 ft. - calm (A)	ft.	3940	5790	3415	3350	5430
Max. speed/altitude (B)	kn./ft.	542/7000	530/11,000	529/17,000	535/6000	527/10,000
Rate of climb at S.L. (B)	fpm	6550	5150	6500	7200	5300
Time: S.L. to 20,000 ft. (B)	min.	3.9	5.0	3.9	3.5	4.9
Time: S.L. to 30,000 ft. (B)	min.	7.0	9.8	7.1	6.3	9.4
Service ceiling (100 fpm) (B)	ft.	38,100	34,100	38,600	39,700	34,700
Combat range	n.mi.	1248	1448	681	762	980
Average cruising speed	kn.	405	400	395	400	400
Cruising altitude(s)	ft.	33,100-40,600	29,700-38,900	35,100-39,500	34,700-39,500	30,300-36,600
Combat radius/mission time(C)(D)	n.mi./hr.	379/2.0	541/2.7	313/1.7	290/1.6	534/2.7
Average cruising speed	kn.	405	400	400	400	400
IFR-Buddy refuel.-rad./miss. time	n.mi./hr.	714/3.6	917/4.6			887/4.6
IFR(30,000') fuel transf./dist.out	lb/n.mi.	3190/407	4050/469			4000/472
COMBAT LOADING CONDITION		② TANKS OFF STORE RETAINED	④ TANKS OFF STORE RELEASED	⑥ MISSILES RETAINED	⑧ ROCKET PACKAGES' RETAINED	⑩ TANK OFF MISSILES RETAINED
COMBAT WEIGHT	lb.	16,014	14,964	15,027	14,771	18,705
Engine power		MILITARY	MILITARY	MILITARY	MILITARY	MILITARY
Fuel	lb.	FULL INTERNAL	FULL INTERNAL	60% INTERNAL	60% INTERNAL	FULL INTERNAL
Combat speed/altitude	kn./M/ft.	562/.85/S.L.	574/.87/S.L.	530/.85/15,000	536/.81/S.L.	506/.86/30,000
Rate of climb/altitude	fpm/ft.	8200/S.L.	9100/S.L.	5200/15,000	8400/S.L.	2100/30,000
Combat ceiling (500 fpm)	ft.	40,400	42,100	40,400	41,600	36,500
Rate of climb at S.L.	fpm	8200	9100	7650	8400	6350
Max. speed at S.L.	kn./m.	562/.85	574/.87	512/.77	536/.81	538/.81
Max. speed/altitude	kn./M/ft.	562/.85/2000	574/.87/S.L.	530/.85/16,000	536/.83/5000	538/.83/4000
Max. speed at 35,000 ft.	kn./M	514/.89	523/.91	500/.87	500/.87	488/.85
LANDING WEIGHT	lb.	10,690	10,794	11,181	11,005	10,939
Fuel	lb.	1166	1270	1068	1073	1174
Stall speed - power-off/appr.pwr.	kn./kn.	91.5/87.3	91.9/87.7	93.6/89.3	92.8/88.6	92.5/88.3
Dist.-grnd.run/over 50 ft.obstacle	ft./ft.	2550/3265	2580/3295	2690/3405	2640/3355	2620/3335

A4D-1 (A-4A) WITH BULLPUPS PERFORMANCE

TAKE-OFF LOADING CONDITION		(1) ATTACK 3 - XASM-N-7 MISSILES	(4) ATTACK 2 - XASM-N-7 MISSILES 1 - 300 GAL. FUEL TANK
TAKE-OFF WEIGHT	lb.	15,843	17,443
Fuel	lb.	5200	7150
Payload	lb.	1620	1080
Wing loading	lb./sq.ft.	60.9	67.1
Stall speed - power-off	kn.	111.3	116.8
Take-off run at S.L. - calm	ft.	1480	1870
Take-off run at S.L. - 25 kn.wind	ft.	905	1175
Take-off to clear 50 ft. - calm	ft.	2200	2780
Max. speed/altitude (A)	kn./ft.	521/18,000	516/14,000
Rate of climb at S.L. (B)	fpm	7200	6300
Time: S.L. to 20,000 ft. (B)	min.	3.6	4.0
Time: S.L. to 30,000 ft. (B)	min.	6.5	7.5
Service ceiling (100 fpm) (B)	ft.	39,900	37,700
Combat range	n.mi.	785	1272
Average cruising speed	kn.	435	440
Cruising altitude(s)	ft.	36,400-41,400	34,000-42,300
Combat radius	n.mi.	321	557
Average cruising speed	kn.	440	440
Total mission time	hr.	1.6	2.6
COMBAT LOADING CONDITION		(2) CLEAN	
COMBAT WEIGHT	lb.	12,143	
Engine power		MILITARY	
Fuel	lb.	3120	
Combat speed/altitude	kn./ft.	585/Sea Level (C)	
Rate of climb/altitude	fpm/ft.	11,200/S.L.	
Combat ceiling (500 fpm)	ft.	46,000	
Rate of climb at S.L.	fpm	11,200	
Max. speed at S.L.	kn./M	585/.885	
Max. speed at 35,000 ft.	kn./M	528/.918	
LANDING WEIGHT		(3) 9931	
Fuel	lb.	908	
Stall speed - power-off	kn.	88.1	
Stall speed - with approach power	kn.	85.6	

BACK COVER:

Top, VA-93 A4D-1 139959 in 1958. The 9 on the fuselage side signified the squadrons assignment to Air Group Nine which was assigned to the USS Ticonderoga (CVA-14). The A4D-1 was characterized by its smooth rudder, short nose and lack of refueling probe which would clutter up the Skyhawks smooth Hot Rod like looks on all future models. (via Craig Kaston)

Middle, VA-56 A4D-2 144980 prepares for a loft-bombing mission with a practice T-63 shape during the December 1959 weapons meet at MCAAS Yuma. (Harry Gann)

Bottom, VA-113 A4D-1 142218 in 1957 in the markings of the 'Albino Angels' flight demonstration team. The blue paint used on these aircraft was metallic blue automotive paint which was outlined by thin black lines. (Harry gann)

Below, size comparison between the Navy's nuclear bomber (A4D-1) and the Air Force's nuclear delivery platform the B-52. A4D-1 137830 was assigned to the Naval Air Special Weapons Facility (NASWF) at Kirtland AFB, NM. (Douglas)



